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**References:** 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kramer MJ, Mauriz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. 3. Spicehandler J et al: *Rev Infect Dis* 4:562-565, Mar-Apr 1982. 4. Stamey TA: *Pathogenesis and Treatment of Urinary Tract Infections*. Baltimore, Williams & Wilkins, 1980, p. 13. 5. Ronald AR: *Clin Ther* 3:176-189, Mar 1980. 6. Cooper J, Brumfitt W, Hamilton-Miller JMT: *J Antimicrob Chemother* 6:231-239, 1980. 7. Gower PE, Tasker PRW: *Br Med J* 1:684-686, Mar 20, 1976. 8. Cosgrove MD, Morrow JW: *J Urol* 111:670-672, May 1974. 9. Irvani A et al: *Antimicrob Agents Chemother* 19:598-604, Apr 1981. 10. Schaeffer AJ, Flynn S, Jones J: *J Urol* 125:825-827, Jun 1981. 11. Rous SN: *J Urol* 125:228-229, Feb 1981. 12. BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

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## Some Problem Injuries of the Hand

Peter R. Heinzelmann, M.D.\*

### Tendon and Nerve Lacerations of the Hand in Children

Lacerations of the palmar surface of the hand in young children often present a diagnostic problem since a child cannot cooperate fully for examination. A typical history is that of a child falling and breaking a glass bottle in his hand. He is brought to the emergency room where the obvious skin laceration is cleaned and sutured; however, what often remains a mystery is what was lacerated beneath the skin.

One must rely mainly on observation to de-

termine what deep injuries may have occurred. Watching the child at play may reveal that the injured finger does not actively flex or that the normal flexor stance of the finger is lost (Fig. 1), indicating that a tendon has been cut. A digital nerve laceration is often indicated by strong bleeding from a digital artery in the wound since the nerve lies superficial to the artery in the finger (Fig. 1). Withdrawal from a pin prick may also be a helpful sign in determining nerve function, although this type of testing may be difficult in children. Often, the diagnosis is made after the initial excitement and pain of the injury have subsided and the child is seen in the office for follow-up and suture removal. It is important

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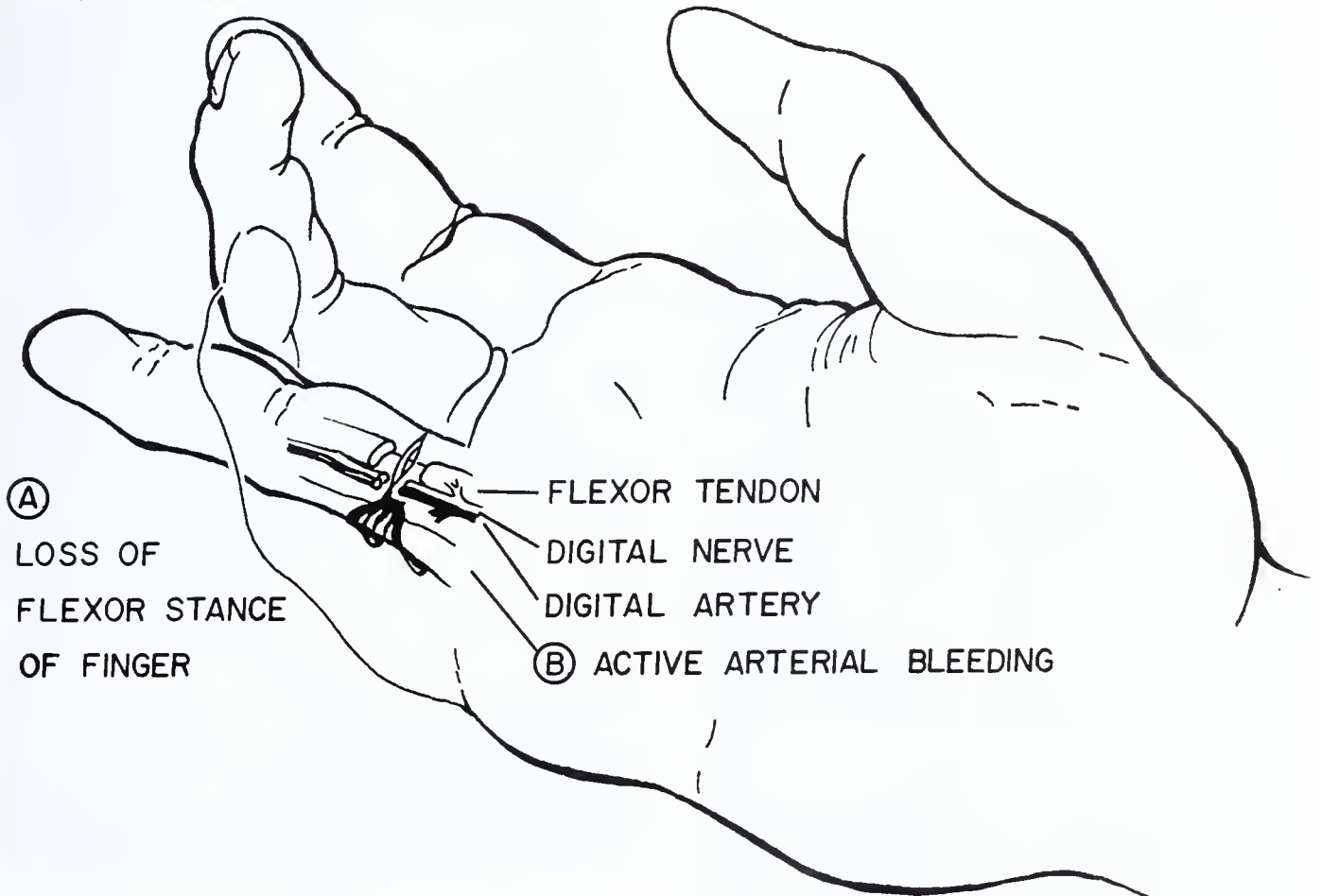


Figure 1.

Laceration of both flexor tendons in a finger may be indicated by the loss of the normal flexor stance of the digit (A). Digital nerve lacerations may be heralded by active bleeding from the digital artery which lies deep to the nerve in the finger (B).



for the physician to make use of this opportune time to recheck the child's hand laceration to rule out tendon and nerve injury. If a question still exists, surgical exploration is indicated so that nerve and tendon repair can be carried out if needed.

The results of primary tendon and nerve repair in young children are generally good.<sup>6</sup> Special care is needed to insure postoperative immobilization, and a long arm cast extending over the fingers is often necessary. The use of absorbable catgut skin sutures obviates the unpleasant task of removing them later. If a tendon injury is seen late (after 10-14 days) or the wound is too untidy for primary or delayed primary repair, then a tendon graft when the child is at a co-operative age offers a good chance for functional recovery.<sup>1,6</sup>

### Tendon Ruptures in the Hand

Rupture of the flexor digitorum profundus tendon in a finger often presents as a problem injury because it is frequently unrecognized, therefore precluding optimal treatment. The usual history is that of an athlete who gets his finger caught in an opponent's jersey while trying to catch or tackle him. The tensed tendon is suddenly and forcefully extended causing it to rupture or avulse from its insertion on the distal phalanx. The tendon then retracts proximally causing fullness in the proximal part of the digit and palm. The injured person will often dismiss

the injury as a "strained finger" and not realize that he can no longer actively flex the distal joint (Fig. 2). The ring finger is most commonly involved in this injury.

If a patient presents with a "strained finger," it is important to obtain an x-ray to rule out a fracture. Occasionally, an avulsed piece of bone will be seen in the flexor sheath area where it has retracted on the end of the tendon. Careful testing of each tendon in the injured digit is important so that a tendon rupture will not be missed (Fig. 3). The optimal treatment is reinsertion of the tendon in the distal phalanx with a pull-out suture, and can usually be performed

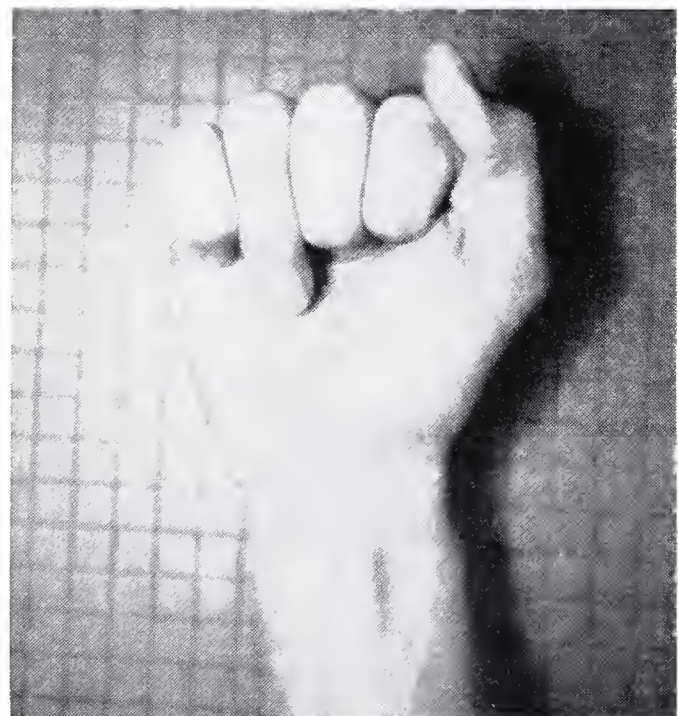


Figure 2.  
The tip of the ring finger in this touch football player cannot be flexed, indicating rupture of the long flexor tendon. He also noted a fullness in his palm from the retracted tendon.



Figure 3.  
(A) Profundus tendon function is checked by active flexion of the digital finger joint. (B) Superficialis tendon function is checked by holding the other fingers extended to block profundus tendon excursion. Finger flexion will then take place only via the flexor digitorum superficialis at the proximal interphalangeal joint.

up to four weeks from the time of the injury. Treatment options when the injury is seen late include tenodesing or fusing the distal joint of the finger. While these later procedures will hold the distal joint in slight flexion, active motion is lost.

Another group of individuals subject to tendon ruptures in the hand are those with rheumatoid and osteoarthritis. Both flexor and extensor tendons may silently rupture due to injury from surrounding synovitis or rough bone edges, and cause loss of active flexion or extension of a finger or wrist (Fig. 4). Tendon repair or transfer will restore function.

#### Rotational Deformities in Hand Fractures

The longitudinal angulation of a metacarpal or phalanx fracture is quite noticeable and is usually correctable by closed reduction and splinting. What often goes unrecognized, however, is the rotational deformity which may exist in such a fracture. A rotational deformity will not alter the longitudinal alignment of the finger in the extended position; but in the flexed position, the deformity becomes quite apparent as one finger crosses over another (Figs. 5, 6). This causes a cosmetic and functional problem.

When treating a fracture of a metacarpal or phalanx, it is important to assess the rotational as well as longitudinal alignment. The fingers should be parallel when they are flexed together (Fig. 7) and the nail bed of the injured digit should be in the same plane as its neighbors. Usually, adequate closed reduction of these fractures can be performed under digital or fracture

hematoma blocks using 1% Xylocaine but, occasionally, the fracture requires open reduction to unlock and reduce impacted bone ends. Splinting the injured digit in a flexed position parallel with its neighbors will maintain proper rotational position. The splint may be discontinued and "buddy taping" to an adjacent uninjured digit started after a week or so in relatively stable fractures so that joint stiffness can be minimized.

#### Pressure-Gun Injuries of the Hand

Pressure-gun injuries are often a "wolf in sheep's clothing" because the innocuous looking wound of entrance belies the extensive intravasa-

(B) FINGER CROSSES NEIGHBOR WHEN FLEXED



Figure 5. The fracture at (A) has caused a rotational deformity which becomes apparent when the finger is flexed and crosses over the neighboring digit (B).

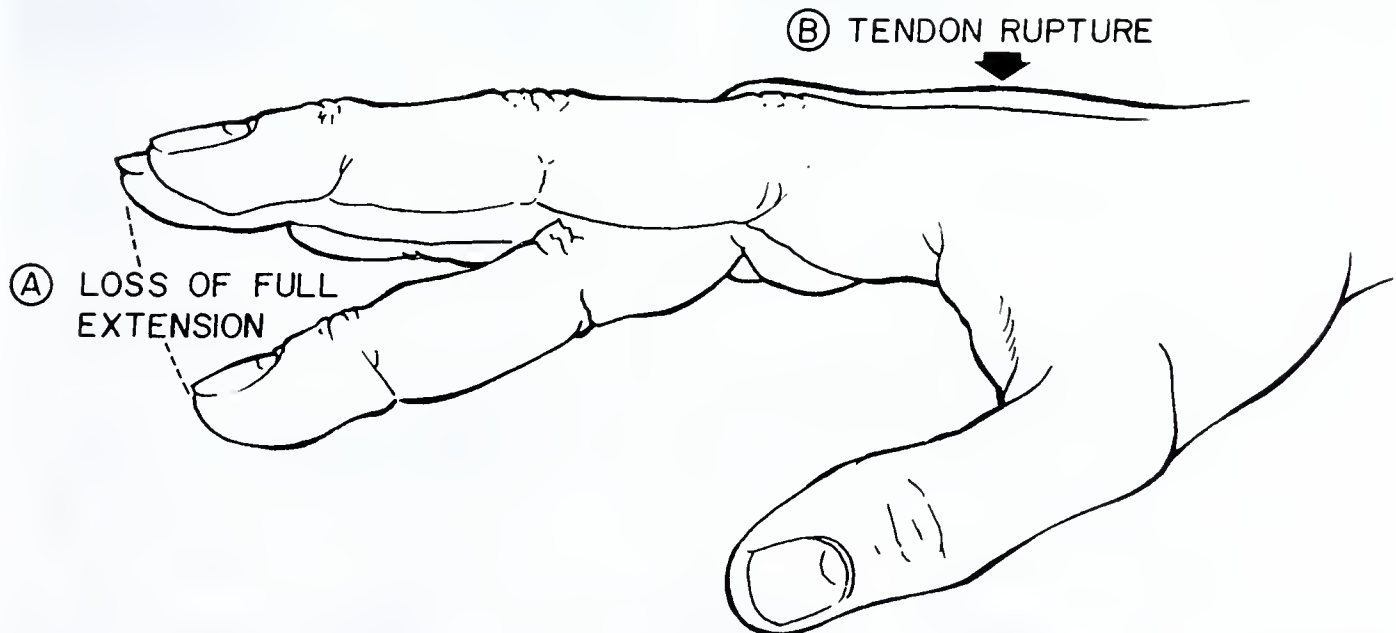


Figure 4.

Loss of full active extension of a finger (A) usually indicates a rupture of the long extensor tendon (B). Tendon repair or transfer should restore the active extension.



tion of material which can occur beneath the surface. The foreign material dissects along tissue planes and can easily move from the fingertip into the palm and wrist (Fig. 8). Occasionally, the foreign substance will enter a tendon sheath and disperse along this route. Common offending agents are paint, grease, diesel and lubricating fluids. In poultry producing areas, vaccines are occasionally injected into the hand.

A typical history is that of a mechanic who has been using a paint or grease gun and accidentally activates it while his hand is over the nozzle. A fine jet of material penetrates the skin, but the patient usually does not feel severe pain initially and may not realize that he has injured his hand. After several hours, the involved digit or hand becomes inflamed and may become

ischemic. The foreign material may disrupt tissue planes in the hand and rapidly cause pressure necrosis of tendon, neurovascular or fatty tissues; or it may cause a delayed inflammatory reaction leading to arterial thrombosis and eventual gangrene of the involved digit. Of the varieties of this injury, paint injections have resulted in a poorer prognosis than other agents, and injections into the palm have been better tolerated than those into digits.<sup>4</sup> In a review by Gelberman,<sup>4</sup> five of six patients with paint injection injuries required amputation of a digit.

Effective treatment is based on early surgical decompression and removal of as much foreign material as possible. It is important to extend incisions adequately to expose all of the foreign material (which may have travelled from the



Figure 6.

Photo of a hand with mal rotation of a phalanx fracture of the index finger. There is no longer a parallel alignment of the digits in the flexed position as the index has crossed behind the long finger.



Figure 7.

Checking that the fingers are parallel in the flexed position and that the nail beds are in the same plane will assure proper rotational alignment in metacarpal and phalangeal fractures.

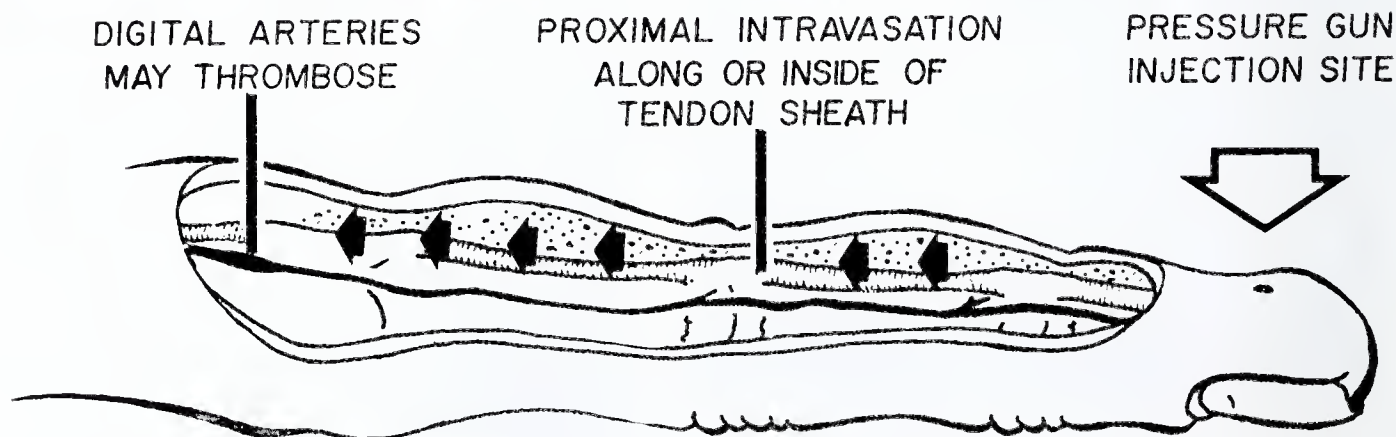


Figure 8.

A common site of injection on the palmar side of the fingertip appears innocent; however, the foreign material will often travel proximally along or inside the flexor tendon sheath causing extensive tissue necrosis and sometimes thrombosis of digital arteries and gangrene of the digit.

fingertip to the forearm). Wounds are usually packed open and repeat debridement performed as necessary. Infections are usually not a primary occurrence; however, antibiotic coverage and tetanus prophylaxis are indicated.

**Human Bite Infections**

Human bite infections are treacherous because they often extend into the deeper layers of the hand and go untreated until an infection is well

established. The mouth harbors an estimated one million organisms of over 42 different species per millileter of saliva.<sup>5</sup> Once these organisms enter the deep structures of the hand, severe anaerobic as well as aerobic infections can ensue. The most common type of bite injury occurs when a clenched fist strikes the tooth of an adversary. The resulting wound often penetrates the extensor tendon area and the metacarpophal-

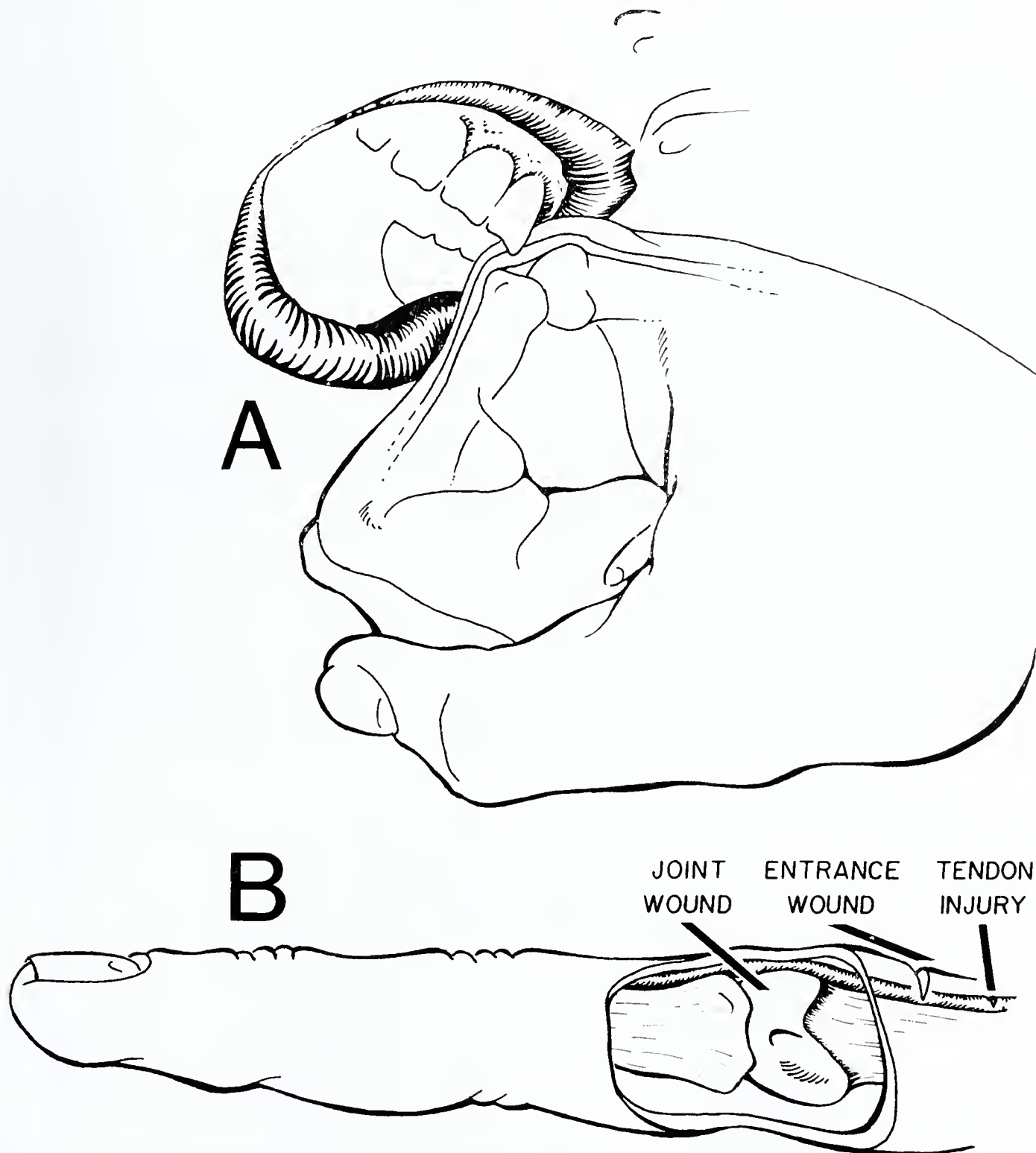


Figure 9.

The common mechanism of injury in a human bite infection is that of the clenched fist striking the tooth of an adversary (A). The tooth often penetrates into the metacarpophalangeal joint inoculating the joint with bacteria. When the finger extends to the normal resting position, the deep wound is sealed off as the skin retracts proximally (B). Debridement should be performed with the fingers returned to the fist position.



langeal joint (Fig. 9). When the fingers extend to the normal resting position, the entrance wound in the skin changes position, sealing off the inoculated structures beneath and allowing an ideal opportunity for infection to develop along the fascial plane of the extensor tendons and in the metacarpophalangeal joint. Tendon ruptures, osteomyelitis and joint stiffness can ensue.

Treatment is best instituted early, but most of these injuries are seen late because the injured person is reluctant to seek treatment. In a review by Mann, et al,<sup>5</sup> 70 percent of the patients were seen at an average of six days after injury. Treatment should consist of surgical debridement of the wound with open packing or drains to allow adequate drainage and impede the growth of anaerobic organisms. If the bite occurred in the clenched fist position, the fingers should be returned to that position so that the path of the penetrating tooth is aligned, and adequate visualization and debridement to the deepest level can be carried out. A wide variety of organisms are often found including Staphylococcus, streptococcus, Micrococcus, Bacteroides, clostridia and others.<sup>5</sup> Cultures for aerobic and anerobic organisms should be obtained at the time of de-

bridement and broad spectrum antibiotic coverage instituted. Cephalosporins or oxacillin plus gentamycin have been used effectively.<sup>5</sup> Any established infection is best treated in the hospital where parental antibiotics can be given and the patient observed closely.

#### REFERENCES

1. Entin, M. A.: *AAOS Symposium on Tendon Surgery in the Hand*. C. V. Mosby Co., St. Louis, 1975.
2. Farmer, C. B., and Mann, R. J.: Human bite infections of the hand. *South. Med. J.* 59:515-518, 1966.
3. Flatt, A. E.: *The Care of Minor Hand Injuries*. Third edition, C. V. Mosby Co., St. Louis, 1972.
4. Gelberman, R. H., et al: High-pressure injection injuries of the hand. *J. Bone Joint Surg.* 57A:935, 1975.
5. Mann, R. J., et al: Human bites of the hand. Twenty years of experience. *J. Bone Joint Surg.* 2:97-104, 1977.
6. Schneider, L. H., and Hunter, J. M.: Flexor tendons—late reconstruction. *Operative Hand Surg.* Vol. 2. Edited by D. P. Green. Churchill Livingston, 1982, London-New York, pp. 1428-1489.
7. Stark, H. H., Ashworth, C. R., and Boyes, J. H.: Paint-gun injuries of the hand. *J. Bone Joint Surg.* 49A:637, 1967.
8. Stark, H. H., Wilson, J. N., and Boyes, J. H.: Grease-gun injuries of the hand. *J. Bone Joint Surg.* 43A:485-491, 1961.

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I want to thank James F. Moore, M.D., Fayetteville, Arkansas, for his advice regarding several topics in this article.





# Preventing Blindness from Diabetic Retinopathy

Morriss M. Henry, M.D.\*

When insulin was first discovered, it was thought to be a cure for diabetes mellitus. The lives of many diabetics have indeed been prolonged, but the result is that many diabetics, living longer, develop difficult medical problems related to their disease.

One of them is diabetic retinopathy, a condition in which abnormalities develop in the tiny blood vessels that nourish the retina. For some time, physicians assumed that nothing could be done to help a person with diabetic retinopathy, and many were probably doomed to blindness. However, a recently developed treatment can enable many diabetics who develop diabetic retinopathy to keep their sight.

In 1960 I took a course in photocoagulation of retinal tears and tumors given in West Germany by Dr. Gerd Meyer-Schwickerath, who had developed the process of photocoagulation. Towards the end of the course, one of the students asked Dr. Meyer-Schwickerath what other diseases might be treated with the process. He answered that he was treating diabetics by photocoagulation for diabetic retinopathy, but cautioned us that the treatments were highly experimental, in an attempt to find out whether burning the retina would halt the progress of the disease.

After I returned to the United States, set up practice in Fayetteville, Arkansas, and was doing a good deal of surgery for retina detachment and disease, the Washington Regional Medical Center purchased in 1964 a Zeon arc photocoagulator, the instrument developed by Dr. Meyer-Schwickerath.

Ophthalmologists around the state began to ask me whether I would treat diabetic retinopathy with this machine in an effort to prolong the vision of their diabetic patients. Work in the treatment of diabetic retinopathy by other investigators, such as Dr. Ed Okum and the late Dr. Paul Cibis of St. Louis and Dr. Paul Welzig of Colorado Springs, suggested that diabetics were benefited by use of photocoagulation therapy. The alternatives were to watch these patients become blind without any effort to preserve their sight, or to refer them to a center where pituitary ablation, with its inherent risks of morbidity and mortality, was carried out.

Whereas no scientific study existed to show that photocoagulation benefited diabetic patients, enough experience had been gleaned to lead many of us to believe that it might prolong the vision of the diabetic patient by destroying the abnormal new blood vessels that formed in the eyes.

After I had used the photocoagulator on diabetic patients in Arkansas for several years, several Arkansas ophthalmologists and I were discussing results of this work on our diabetic patients during the Academy of Ophthalmology and Otolaryngology meeting held one year in San Francisco. We were overheard by an ophthalmologist sitting nearby who was quite critical of the photocoagulation therapy as it was being used for diabetic retinopathy. Because ophthalmologists had such greatly differing opinions of photocoagulation in the treatment of diabetic retinopathy, a national study was set up whereby diabetics were treated for diabetic retinopathy under strict control, and with careful record-keeping.

In the treatment of each patient in the study, one eye — usually the worst eye — was treated by photocoagulation, and the other, better eye, was used as a control, and not treated. In a relatively short time, it became apparent that sight was maintained better in the eye treated with photocoagulation than in the untreated eye. Notices were sent to ophthalmologists around the country to use photocoagulation treatment on both eyes of patients with diabetic retinopathy.

Among people who have diabetes more than ten years, almost half develop diabetic retinopathy. In some cases the retinopathy will come on much sooner. Prompt and early treatment is important because severe visual loss, including total blindness, can result if treatment is not begun early.

Loss of vision may occur because serum and blood collect in the central macula area of the eye, resulting in a decrease in central vision, such that the person can no longer drive a car or read. Since there is no pain with this process, and no outward symptom such as a bloodshot eye, irritation, or discharge, the vision in one eye may have deteriorated to legal blindness and the other may have started its downhill course before the patient seeks help.

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Another type of diabetic retinopathy, referred to as proliferative diabetic retinopathy, occurs when new blood vessels begin to grow on the surface of the retina, or extend into the vitreous. This proliferation of new blood vessels over the inner surface of the retina often causes frequent blurring of the vision. Connective tissue grows along the blood vessels, causing additional distortion of the retina, leading to a traction retinal detachment in many cases.

Fortunately more than half of all cases of proliferative retinopathy can be stabilized if they are treated early enough by use of a light coagulation technique called pan-retinal photocoagulation. In this procedure the entire retina, except for the macula area, is given a scattered treatment with the laser or photocoagulator. A large area of healthy retinal tissue is destroyed, but the growth of new blood vessels is usually stopped, and in many cases existing abnormal blood vessels regress to more normal appearance. This treatment often causes some loss of peripheral vision, especially at night; but in many cases it is a fair trade for the preservation of central vision and some useful side vision.

More recently, in cases where patients have developed extensive proliferative diabetic retinopathy with secondary traction retinal detachment, a condition formerly considered inoperable, a surgical procedure called vitrectomy has been developed. The purpose of the vitrectomy is to remove long-standing blood from the vitreous, which blocks vision, and the fibrous tissue re-

sulting from the growth of new blood vessels on the surface of the retina. It is not often that good vision can be restored by vitrectomy, but an effort is made with it to preserve enough vision that the patient can continue to see gross forms and move about in the home environment, limited though the sight may be.

However, if diabetic patients are referred to an ophthalmologist as soon as the diabetic retinopathy is discovered, so that photocoagulation therapy can be used as soon as it is needed, they may avoid the severe effects of diabetic retinopathy and the need for later surgical treatments. Prompt referral and photocoagulation treatment are very important.

Treatment seldom improves the vision of the patient with diabetic retinopathy, but it often can maintain the vision at the level where it is when the disease is discovered. Ophthalmologists can provide this maintenance only if we are able to examine the eyes of diabetic patients regularly, and treat them as soon as they need treatment. Most ophthalmologists recommend that diabetic patients have their eyes examined once a year, and more often if there is any indication that diabetic retinopathy has begun.

But we cannot begin to maintain a diabetic patient's eyesight until the patient is referred to us by the primary care physician, who must educate the patient about diabetes and diabetic retinopathy, and refer the diabetic patient promptly to an ophthalmologist at the first sign that retinopathy is developing.







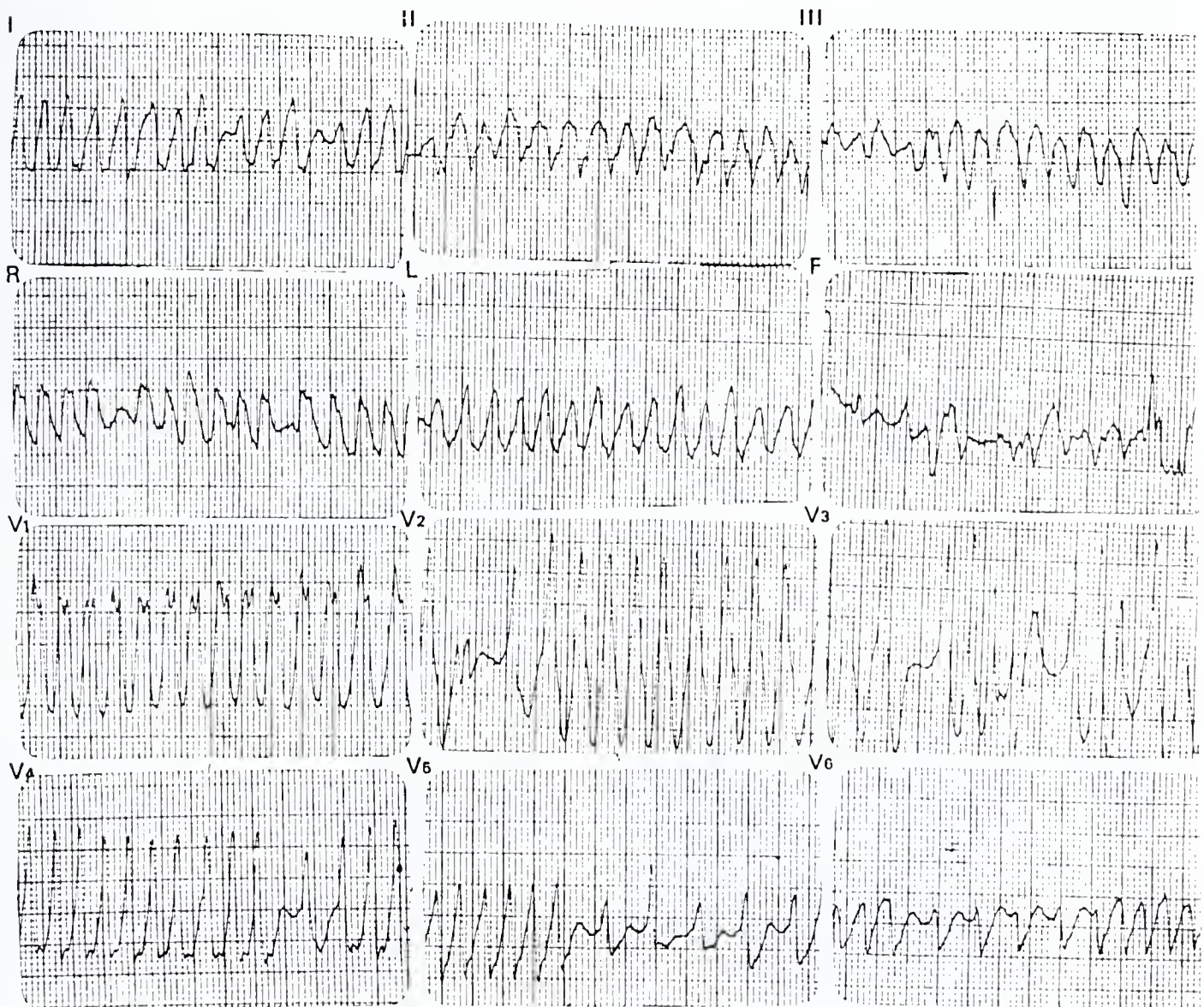
## ELECTROCARDIOGRAM

## OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 33)

**HISTORY:** J. M. is a 22-year-old male who took a couple of amphetamine capsules one night. The next morning when the patient awoke, he felt that his heart was beating very rapidly but had no other associated complaints. He saw his physician that afternoon who found him to have a blood pressure of 120/80 mmHg and obtained this electrocardiogram. What are your thoughts concerning this arrhythmia and its treatment?



Leon Roby Blue, M.D., and John W. Watson, M.D.

UAMS-LRVAMC Division of Cardiology

Little Rock, Arkansas



# Office Orthopaedics

## Stress Fractures in the Lower Extremity

Richard A. Nix, M.D.\*

Most commonly, fractures of the pelvis and lower extremity occur in a single episode of sudden violent trauma. The mechanism of injury, physical examination and radiographs usually make diagnosis easy. Visible displacement of bony fragments on x-ray is common. A more subtle and insidious form of mechanical failure of the skeleton is termed stress fracture. Other terms used to describe this injury include march fracture, fatigue fracture, runner's fracture or overload fracture. The insidious onset of this injury can make diagnosis difficult. Additionally, variation in response of different stress fractures to treatment is common. As these injuries most frequently occur in an athletic patient population, speed of recovery is of paramount importance.

As Americans have become obsessed with personal fitness over the last decade, overuse injuries to the musculotendinous units have become increasingly common—stress fractures are the skeletal system's analogy to these overuse injuries. A discussion of these fractures, including specific sites, clinical characteristics and natural history will hopefully aid in diagnosis and management of these problems.

A stress fracture is a mechanical failure of bone occurring much as fatigue failure of a metal structure does. Recurrent loading of a bone or metal structure, even at a force less than that necessary to cause an acute fracture, can lead to eventual fatigue failure. Wolff's Law states that bone responds favorably to increased loads by hypertrophy and increased strength. If cyclical loading

is great enough or frequent enough, mechanical failure of the bone will occur before hypertrophy can occur.

Fatigue failure of bone occurs frequently in states of metabolic disease or primary bone disease. Some authors have termed these "insufficiency fractures" to better describe the compromised structure of the bone. Conditions such as osteomalacia, rickets, Paget's disease, fibrous dysplasia, hyperphosphatasia, or other conditions of osteomalacia are examples of this. Pseudofractures or Looser's lines may be seen in these conditions. They consist of radiolucent bands through the bone surrounded by a sclerotic reaction. These likely represent a healing response to minor infractions. Most authorities prefer to reserve the term stress fractures for those cases of fatigue failure of "normal" bone where repetitive loading appears to be the causative factor.

Muscular fatigue appears to be closely related to stress fractures. Muscles act as the tethers and windlasses of the skeleton to aid in stress distribution. Altered gait patterns may also be caused by muscular fatigue thus leading to altered stress patterns transmitted to the skeleton. It is understandable that these injuries predominate in the lower extremities because of a mechanism of recurrent impact loading. Recently, however, stress fractures have been recognized in less likely areas such as the carpal scaphoid. This discussion will be limited to those injuries in the pelvis and lower extremity.

### Pathology

The histologic process of stress fracture has been examined by Johnson, et al.<sup>6</sup> Cortical bone remodeling presumably as a response to increased

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stress is associated with increased osteoclastic resorption. Periosteal new bone is formed, followed by an increase in cancellous bone trabeculae and realignment of the osteonal systems of the cortical bone. Peak bone loss from osteoclastic activity following increased stress occurs at about 21 days. A bone in this state is at increased risk for mechanical failure.

Conditions of weakened bone, such as osteoporosis or Paget's disease, may predispose a bone to injury. A high incidence of stress fractures in pre-menopausal female athletes who are amenorrheic has been noted, but research to correlate this with possible estrogen deficiency and secondary osteoporosis is incomplete at this point.

The diagnosis of these injuries can be aided very greatly by radionuclide bone scanning. This in no way substitutes for a careful history with physical examination and standard radiographic evaluation. Two to three weeks of time is required following the boney insult to effect radiographic changes on conventional x-ray. A bone scan may show changes suggestive of fracture as soon as two to eight days post-injury. In certain cases this becomes necessary due to a necessity for early diagnosis or absence of standard radiographic changes after an elapsed period of time. Many small infractions may maintain normal x-rays throughout the period of injury and healing in spite of disabling symptoms and abnormal uptake on a bone scan. A pinhole collimator view of the suspected area is strongly recommended to aid in diagnosis with the bone scan.

### Specific Stress Fractures

#### Metatarsals

Probably the most common site of stress fracture is in the metatarsals. This is most frequently seen in running sports and situations where a sudden increase in walking or running occurs, such as military recruits. The fracture site is usually the midshaft or metatarsal neck and most frequently in the second and third metatarsals (Figure 1). Initial x-rays may show no boney abnormality, but follow-up films 1½ to 3 weeks after the onset of symptoms frequently show periosteal callus in the area. Radionuclide bone scanning is rarely necessary here for diagnosis. Reduction of activity relieves symptoms and full activity can be resumed within four to six weeks. Previous authors have implicated Morton's foot in stress fractures of the metatarsals. This is a foot with a short first metatarsal, long second

metatarsal and hypermobile first ray. A recent review by Drez, et al, demonstrated no correlation between these two entities.<sup>3</sup> Stress fractures of the sesamoid bones beneath the head of the first metatarsal have been reported and if symptoms are related to that area then x-rays should be closely inspected here.

#### Tarsal Bones

Stress fractures of the calcaneus, navicular and other tarsal bones have been reported. Heel pain should be carefully examined to rule out Achilles tendinitis or peroneal tendinitis. Subtle sclerotic densities in the calcaneus on x-ray may be difficult to see and bone scan is very helpful here. Pinhole collimator views specifically of the foot offer better resolution.

Fatigue fractures of the tarsal navicular are rare but extremely disabling. This bone is stressed with axial loading such as coming down on the foot in the tip-toe position. Pain is directly over the navicular bone anteromedially and should be differentiated from deltoid ligament sprain or posterior tibial tendinitis. A true AP x-ray of the navicular bone is mandatory to visualize these fractures and should be taken from a superomedial direction. A true AP x-ray of the *foot* rarely demonstrates this fracture. Without displacement, tarsal fractures usually respond rapidly to reduction of activity. Crutches may be necessary to alleviate symptoms.

#### Tibia

Tibia stress fractures are quite common especially in the distance running population. Most frequently these are along the middle third of the tibial shaft, usually with symptoms along the posterior medial aspect (Figures 2, 3). A second characteristic type occurs along the medial tibial plateau with symptoms that may be confused with pes anserine bursitis. X-rays should be closely



Figure 1.  
Serial x-rays show developing fracture callus along the second metatarsal shaft.

inspected for subtle sclerotic changes in these areas. In the tibial diaphysis, pain occurs along the posterior medial border along the origin of the tibialis posterior muscle. Stretching of this tendon does not particularly aggravate stress fracture pain, but direct bony tenderness to pressure makes the diagnosis apparent. Treatment demands that activities be modified to keep the patient at a subsymptomatic level. Substitution training, such as cycling or swimming, to avoid the violent impact loading on this bone is usually mandatory. Symptoms usually preclude running or racquet sports. With proper care full activities can usually be resumed in six to ten weeks. Abuse of the injury may certainly prolong symptoms.

#### Fibula

Also noted in the running sports are stress fractures to the fibula. These commonly occur in the distal shaft (Figure 4). Diagnosis is rarely difficult but should be differentiated from peroneal tendinitis. Crutches or casting are rarely necessary and symptoms usually abate within four weeks.

#### Patella

Mentioned only for completeness, stress fractures of the patella are quite rare. When symp-

toms of patello-femoral joint disease are atypical, careful inspection of the x-rays and consideration for bone scanning may be indicated.

#### Femur

These injuries are usually divided into femoral shaft and neck fractures. Shaft fractures occur with development of symptoms and radiographic changes much as those of the tibia. Displacement is rare. Again like the tibia, these usually respond to substitution training and restricted activity (Figure 5).

Compression fractures of the femoral neck along the inferior cortex are a well known problem in runners. Elderly patients suffer stress fractures of the femoral neck also, but these are more often along the superior tensile surface of the femoral neck. It is generally recommended in the older population with this latter type of fracture that immediate pinning *in situ* be done before displacement of the fracture can occur. In the younger athletic population with compression type fractures, compliance is of the utmost importance. Any lack of this demands surgical stabilization. If symptoms do not abate immediately with limitation of activity, then *in situ* pinning should be undertaken.<sup>5</sup>

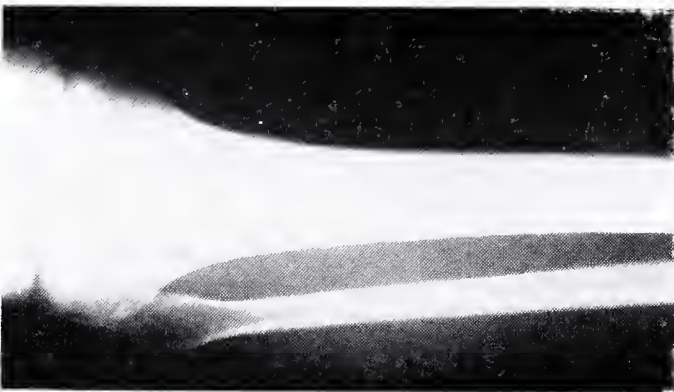


Figure 2.

A marathon runner had disabling symptoms of posteromedial calf pain despite normal x-rays.



Figure 3.

A bone scan in this same patient shows focal increased uptake in the posteromedial tibial cortex.



Figure 4.

A female runner with lateral ankle pain and normal x-rays developed this sclerotic line in the distal fibula at follow-up three weeks later.



Figure 5.

This "insufficiency fracture" occurred in a femur already compromised by fibrous dysplasia.



## Pelvis

Perhaps the most difficult stress fracture to treat is that of the ischiopubic ramus. These are far more common in women, possibly due to the broader configuration of the pelvis and variation in pull of the hamstring and adductor muscles. Symptoms are usually insidious in onset and localized to the inguinal crease. Sometimes posterior ischial symptoms are felt also. Maneuvers such as bending, which stretch the hamstring tendons, reproduce these symptoms, too. Hip range of motion is usually not compromised. Radiographic changes may be very subtle and bone scanning is often helpful here (Figures 6, 7). Substitution training is very difficult in this particular injury because aerobic sports such as running, swimming or cycling all involve these major muscle groups. Typically, symptoms may persist in spite of good care for two months to one year. Recent reports have shown certain cases to persist as long as three years.<sup>8</sup>

### Stress Fractures in Children

Although rare in this age group, diagnosis of stress fractures may be much more difficult. Differentiation between fracture, neoplasm and in-

fection is sometimes impossible in spite of physical examination and x-ray. Biopsy becomes necessary in these difficult cases. Callus formation may be abundant, especially in younger patients. As children grow into adolescence, sports related activities become a significant causative factor.

The most common sites of fracture in children are the tibia and fibula. The tibia most often fractures transversely along the proximal shaft whereas the fibula fractures along the distal shaft. Femoral neck stress fractures have been reported but are exceedingly rare prior to closure of the capital femoral epiphysis. Fractures along the inferior pubic ramus occur much as in the adult.

Stress fractures are becoming increasingly prevalent as an overuse injury to the skeletal system. A knowledge of the likely locations of injury is helpful in diagnosis. A firm caution against overdiagnosis is warranted, however: malignant osteosarcoma, infection of bone and osteoid osteoma may be confused with stress fracture in certain cases. As previously mentioned, diagnosis in children can be particularly difficult. Just as with many other medical maladies, early diagnosis and treatment is the key to rapid rehabilitation.

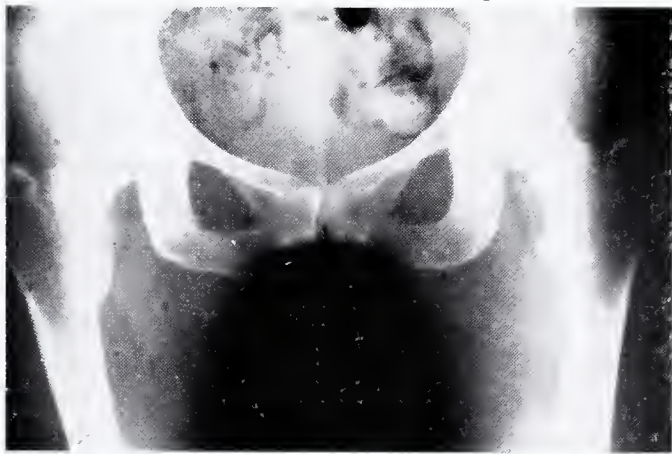


Figure 6.  
This fracture of the left inferior pubic ramus is sometimes difficult to see on plain x-ray.

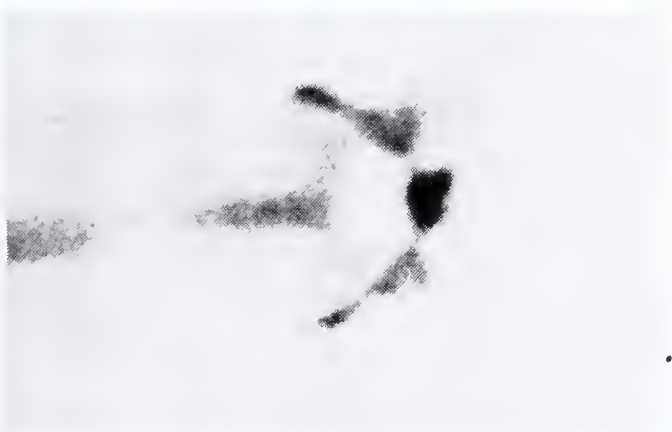


Figure 7.  
A bone scan in the same patient readily demonstrates increased uptake in the ischiopubic ramus.

### BIBLIOGRAPHY

1. Baker, J., Frankel, V. H., and Burstein, A. H.: Fatigue Fractures: Biomechanical Considerations. *Journal of Bone and Joint Surgery*, 54-A:1345, 1972.
2. Devas, M. B.: Stress Fractures in Children. *Journal of Bone and Joint Surgery*, 45-B:528, 1963.
3. Drez, D., Young, J. C., Johnson, R. D., et al: Metatarsal Stress Fractures. *American Journal of Sports Medicine*, 8:123-125, 1980.
4. Edmonson, A. S., and Crenshaw, A. H., ed.: *Campbell's Operative Orthopedics*, Volumes 1 & 2. St. Louis, Missouri, C. V. Mosby Company, 1980.
5. Jackson, D. W., and Strizak, Alan M.: "Stress Fractures in Runners, Excluding the Foot" in *The Foot and Leg in Running Sports*. Mack, Robert P., ed. St. Louis, Missouri, C. V. Mosby Company, 1982.
6. Johnson, L. C., Stratford, H. T., Geix, R. W., et al: Histogenesis of Stress Fractures. *Journal of Bone and Joint Surgery*, 45-A:1542, 1963.
7. McBride, Angus M., Jr.: "Stress Fractures in Runners" in *Prevention and Treatment of Running Injuries*, D'Ambrosia, R. and Drez, D. Thorofare, New Jersey, Charles B. Slack, Inc., 1982.
8. Pavlov, H., et al: Stress Fractures of the Pubic Ramus. *Journal of Bone and Joint Surgery*, 64-A:1020-1025, 1982.
9. Rockwood, Charles A., and Green, David P., ed.: *Fractures*, Volume 2. Philadelphia, Pennsylvania, J. B. Lippincott Company, 1975.
10. Selakovich, W., and Love, L.: Stress Fractures of the Pubic Ramus. *Journal of Bone and Joint Surgery*, 36-A:573-576, 1954.

## Massive Hemoptysis in Cystic Fibrosis Case Report

Tim Foote, M.D.,\* Raymond G. Watts, M.D., and Robert H. Warren, M.D.

Cystic fibrosis of the pancreas was originally described as a specific constellation of symptoms including failure to thrive, malabsorption and secondary bacterial pneumonia with subsequent respiratory failure and death. As such, it was the exclusive province of the physician caring for children from the time of the original description in 1938, by Dr. Dorothy Andersen, to the very recent past. However, due to both diagnostic and therapeutic advances, life expectancy has lengthened. The increased longevity of persons with cystic fibrosis has also increased the number of severe and life-threatening complications, especially with reference to the pulmonary system. Cystic fibrosis is now the most common cause of chronic obstructive pulmonary disease and pancreatic insufficiency in the first three decades of life in the United States.

Cystic fibrosis, a common lethal genetic disease in the United States, is transmitted as an autosomal recessive. The incidence of this disease is 1 in 1500 live Caucasian births and 1 in 17,000 black births. About 5% of the general population are carriers of this gene. The unknown basic defect involves the exocrine gland system. Abnormal mucus secretions obstruct duct systems in various organs of the body, primarily the lung and pancreas.

The two major pulmonary complications of a life-threatening nature that are seen with increasing frequency as these patients become older are massive hemoptysis and recurrent pneumothoraces. This case report deals with the problem of massive hemoptysis in a young adult with cystic fibrosis.

Because of the increased number of people living to adulthood with cystic fibrosis, both the cystic fibrosis patient and the problem of significant hemoptysis are going to be encountered with

increasing frequency by the primary physician. The hemoptysis may be massive, recurrent, and carry a high mortality rate.<sup>1</sup> Pneumonectomy, lobectomy, infusion of vasoconstricting drugs, and bronchial artery ligation have all met with variable success in individual cases.<sup>2</sup> Bronchial artery embolization (BEA), performed at tertiary medical centers, is being used more frequently and is proving to be a definitive and safe procedure for life-threatening hemoptysis.<sup>3</sup> Stern, et al,<sup>4</sup> has shown that vigorous medical support, consisting of IV antibiotics, supplemental vitamin K administration, bedrest, and blood product replacement, is also effective and may preclude the use of any type of invasive procedure. However, each case of life-threatening hemoptysis must be evaluated individually and a consideration given to the use of BEA in selected cases.

The following case study demonstrates the successful outcome of a BEA procedure at the Arkansas Children's Hospital in a patient with cystic fibrosis who experienced severe hemoptysis. This is the first time this procedure has been used in Arkansas for the treatment of hemoptysis in a patient with cystic fibrosis.

### Case Study

N. C. is a 19-year-old white female with cystic fibrosis who had a one-week history of congestion and cough prior to admission. There was no history of fever or violent coughing episodes. She was admitted to Arkansas Children's Hospital after expectorating approximately 400 cc of bright red blood. This episode had been preceded by a tingling sensation in her right upper chest. She had been followed routinely by the Arkansas Cystic Fibrosis Center since her diagnosis at 18 months of age. She had previously exhibited only mild pulmonary symptoms and no significant GI symptoms. In 1981, she underwent cholecystectomy for cholelithiasis. Her most recent pulmonary function studies showed only

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mild obstructive disease.

Physical examination revealed an anxious, well nourished white female with an oral temperature of 36.4°C. Her blood pressure was 104/72. There was no orthostatic changes. Her pulse was 80 beats per minute and her respiratory rate was 18 per minute. No blood was noted in the oral or nasal passages. Auscultation of the lungs demonstrated decreased breath sounds and crackles in the right upper lobe. Marked clubbing of the extremities was noted. The remainder of the physical examination was unremarkable.

Laboratory tests on admission revealed: Hgb 13 gm; Hct 33; white count 8,200; differential normal; platelet count 487,000. The prothrombin time and partial thromboplastin time were both normal. Bleeding time, serum electrolytes, and liver function tests were all within normal limits. The chest film revealed a prominence of peribronchial infiltrate in the right upper lobe suggestive of bronchiectatic changes.

The diagnosis of hemoptysis secondary to right upper lobe bronchiectasis and infection was made. The patient was begun on IV tobramycin, ticarcillin, and nafcillin. She was also placed on oral probenecid, supplemental vitamin K, and bedrest. On the first hospital day, the patient expectorated approximately 300 cc of bright red blood. There was no blood pressure changes and no drop in hematocrit. She was able to symptomatically localize the bleeding to her right upper chest. On the second hospital day, she again had a significant hemoptysis of 1000 cc. This was accompanied by a syncopal episode. She required a transfusion of both packed red cells and fresh frozen plasma. On the third hospital day, an additional 400 cc of blood was expectorated. Because of the persistent massive hemoptysis, it was concluded that conservative medical management was not stabilizing the problem and that bronchial artery embolization should be performed.

With the patient under light sedation and local anesthesia, a catheter was passed percutaneously into the femoral artery and aorta. Angiography revealed a large, tortuous right bronchial artery in the upper quadrant of the right lung. No spinal artery could be demonstrated. Gelfoam particles were placed into the artery through the catheter with occlusion of the previously defined tortuous vessel.

Following the embolization procedure, IV antibiotic therapy was continued. No further sig-

nificant episodes of hemoptysis occurred. The patient tolerated a gradual progression to full activities and chest physical therapy. There was no evidence of fever, hemoptysis, or chest pain following the embolization. The post-embolization findings of fever, minimal hemoptysis, and chest pain have been recorded in the literature. They have been found to be self-limited problems. On the 14th day post-embolization, she was discharged from the hospital in good condition. She was maintained on oral antibiotic therapy and daily chest physical therapy at home. To date, hemoptysis has not recurred.

### Discussion

The patient with cystic fibrosis is predisposed to hemoptysis because of the following factors: 1) formation of luxuriant peribronchial granulation tissue, comprised of anastomoses between systemic and pulmonary vessels, resulting from chronic inflammation;<sup>5</sup> 2) the existence of normal precapillary and capillary bronchopulmonary anastomoses which become dilated and tortuous;<sup>6</sup> 3) thrombosis and subsequent recanalization of vasa vasorum of pulmonary arteries. Lung parenchyma with these underlying features become bronchiectatic and infected, resulting in erosion into the airway lumen.

Stern<sup>4</sup> reported 38 patients with cystic fibrosis and massive hemoptysis, defined as a volume of greater than 300 cc expectorated within 24 hours, who were treated with a medical protocol similar to that employed at Arkansas Children's Hospital. Volumes of expectorated blood were as much as 2500 cc, with four patients experiencing syncope. Within four days bleeding had stopped in all 38 patients with conservative therapy.

Bronchoscopy was performed in four patients and failed to localize the source of bleeding. Although massive hemoptysis recurred in 45% on long-term follow up, post-bleeding survival rate was comparable to that of patients with equally severe lung disease who had never experienced hemoptysis.

Fellows, et al,<sup>3</sup> reported on bronchial artery embolization of 13 patients with severe hemoptysis secondary to cystic fibrosis. Indications for the procedure were either hemorrhage of 300 cc within 24 hours and persisting for three consecutive days, or multiple episodes over weeks or months. The procedure was preceded by bronchoscopy as an accurate method of localizing the site of bleeding.<sup>7</sup> There were no complications.<sup>8</sup>

Vigorous chest physiotherapy was able to be resumed within 24 hours of the procedure. Sixty-two percent had immediate cessation of bleeding, while 31% required two or three further embolizations over the ensuing three to 10 days. One patient required lobectomy. Forty percent had minor hemoptysis several weeks after the embolization. Subsequent mortality has not been related to hemoptysis.

At Arkansas Children's Hospital, patients with cystic fibrosis that present with massive hemoptysis are begun on a protocol of aggressive medical management which consists of: 1) intravenous antibiotic therapy directed against the bacterial pathogens most commonly encountered; namely, *Staphylococcus aureus* and *Pseudomonas aeruginosa*. Sputum cultures are obtained to guide decision making in altering the initial antibiotics used. Our routine initial antibiotic protocol utilized tobramycin, ticarcillin, and oxacillin pending sputum culture results; 2) bedrest; 3) reduction or discontinuation of chest physical therapy during acute hemoptysis; 4) supplemental vitamin K therapy orally; 5) identification of any underlying bleeding disorders; 6) blood replacement if clinically indicated. This medical regimen will be successful in many patients. When medical management does not result in cessation of hemoptysis and when any cardiovascular instability develops with the episodes of hemoptysis, bronchial artery embolization becomes a consideration.

The indications for bronchial artery embolization may be more specifically divided into both acute and chronic clinical situations.

#### Acute

- (1) Development of a shock state with hypotension secondary to greater than 1000 cc of blood expectorated on any single occasion.
- (2) Expectoration of greater than 300 cc of blood on three consecutive days with or without evidence of hypotension or need for blood replacement.

#### Chronic

- (1) Frequent or daily expectoration of blood over a period of weeks resulting in anemia and/or an inability to carry out usual routine activities of work and play.
- (2) Intermittent expectoration of blood sufficient to require hospitalization and medical therapy on a monthly basis for three consecutive months.

Further determination for planning a bronchial artery embolization procedure will include the following:

- (1) Accurate determination of the amount of expectorated blood each day.
- (2) Careful monitoring of the clinical state to determine cardiovascular instability and need for blood replacement.
- (3) Use of chest x-ray findings and patient's own assessment of bleeding to attempt to localize the site of pulmonary hemorrhage.
- (4) Use of flexible fiberoptic bronchoscopy to assist in localization of bleeding site.
- (5) Radiology consultation for performance of the technical procedure of angiography and subsequent embolization of the bronchial artery or arteries producing the pulmonary hemorrhage.

#### Summary

Hemoptysis in the patient with cystic fibrosis may be amenable to conservative medical treatment of the underlying infection and bronchiectasis. This case demonstrates that bronchial artery embolization, when performed by experienced personnel, is a definite alternative to those refractory to such treatment.

#### BIBLIOGRAPHY

1. Holsaw, D. S., Grand, R. J., and Swachman, H.: Massive hemoptysis in cystic fibrosis. *J. Pediatrics* 76:829, 1970.
2. Schuster, S. R., and Fellows, K. E.: Management of major hemoptysis in patients with cystic fibrosis. *J. Pediatric Surgery* 12:889, 1977.
3. Fellow, K. E., Khaw, K. T., Schuster, S., and Shwachman, H.: Bronchial artery embolization in cystic fibrosis; technique and long-term results. *J. Pediatrics* 95:959, 1979.
4. Stern, R. C., Wood, R. E., Boat, T. F., Matthews, L. W., Tucker, A. S., and Doershuk, C. F.: Treatment and prognosis of massive hemoptysis in cystic fibrosis. *Am. Rev. Resp. Dis.* 117:825, 1977.
5. Liebow, A. A., Hales, M. R., and Lindskog, G. E.: Enlargement of the bronchial arteries and their anastomoses with the pulmonary arteries in bronchiectasis. *Am. J. Path.* 25:211, 1949.
6. Mack, J. F., Moss, A. J., Harper, W. W., and O'Loughlin, B. J.: The bronchial arteries in cystic fibrosis. *Brit. J. Radiology* 38:422, 1965.
7. Fellows, K. E., Stigol, L., Schuster, S. R., Khaw, K. T., and Shwachman, H.: Selective bronchial arteriography in patients with cystic fibrosis and massive hemoptysis. *Radiology* 114:551, 1975.
8. Feigelson, H. H., and Ravin, J. A.: Transverse myelitis following selective bronchial arteriography. *Radiology* 85:663, 1965.
9. Ores, C. N., and Baker, D. C.: Localization of hemoptysis in patients with cystic fibrosis. *Am. Rev. Dis.* 99:790, 1969.





## EDITORIAL

# Blood Pressure — High and Low

Alfred Kahn, Jr., M.D.

Blood pressure and its treatment still occupies a large part of the medical literature and the pharmaceutical ads. The Framingham Studies on blood pressure alerted everyone about the risks of high blood pressure and the medical public has enthusiastically treated most hypertensive cases. In the January 21, 1983 issue of *The Journal of the American Medical Association* there is a commentary on therapy for mild high blood pressure, a special communication entitled "Should We Treat 'Mild' Hypertension?" and an editorial entitled "Treatment of Mild Hypertension and the Reduction of Cardiovascular Mortality: The 'Of or By' Dilemma." Kaplan in his commentary (Volume 249, page 365, January 21, 1983) states that in his opinion, and based on other trials, patients with diastolic blood pressures above 100 mm should be treated. Those individuals with diastolic blood pressures below 100 mm should be evaluated before any therapy is begun. Kaplan recommends treating patients with a relatively high cardiovascular risk as computed from the Coronary Risk Handbook. He further states that patients at lower risks with diastolic blood pressures between 90-100 mm probably do not need drug therapy unless there is some special indication for it. He does recommend weight reduction, if necessary, and salt restriction.

McAlister (*The Journal of the American Medical Association*, Volume 249, page 379, January 21, 1983) in his commentary on so-called mild hypertension takes a somewhat similar position to that of Kaplan who feels the risk of treatment may outweigh the benefit, especially if the quality of life is factored into the evaluation as to whether the patient should take hypotensives or not. He states that close observation of these mild hypertensive patients seems a reasonable

course in many of these patients. In the same journal Pickering echoes a similar opinion (page 399). He cites three guidelines on whether or not to initiate treatment for mild hypertension: first of all, he stated that cardiovascular risk factors other than blood pressure should be evaluated in determining whether or not a patient will get real benefit from hypotensive therapy, and he further states that white women and men under 50 years of age do not seemingly benefit as a group. He secondly points out that individuals who appear to be a relatively high risk might undergo treatment, and the hypotensive drug will probably protect against cerebrovascular disease rather than coronary heart disease. Lastly, he states there is no harm in trying the commencement of hypotensive therapy in questionable cases.

A good deal of interest has been shown in why certain groups of people seem to be relatively immune to high blood pressure and arteriosclerotic disease. The Eskimos are a good example of this — as compared to the so-called Westerners. This matter is taken up in an interesting article in *Circulation* (Volume 67, page 501, March, 1983) in which Lorenz, Spengler, Fischer, Duham, and Weber discuss "Platelet Function, Thromboxane Formation and Blood Pressure Control During Supplementation of the Western Diet with Cod Liver Oil." Eskimos eat polyunsaturated fatty acids in seafood, and the authors felt that this was probably responsible for their relative immunity to cardiovascular disease. To test this theory, they gave 40 cc of cod liver oil a day which supplied 10 grams w-3 polyunsaturated acid to eight volunteers for 25 days. They concluded that the volunteers who took w-3 polyunsaturated fatty acids had an increased bleeding time and decreased platelet aggregation. They

also report that blood pressure fell and the response to certain blood pressure-raising chemicals was blunted. These changes reverted to normal within about a month after the cod liver oil supplementation was stopped. They summarized this by stating they did not know the exact mechanism of these changes but did feel that there were changes in the platelet membranes which made them less reactive and there was a blunted circulatory response to certain pressure chemicals.

Belizan (from the Institute of Nutrition of Central America and Panama) et al, have published an interesting article on blood pressure reduction and published it in *The Journal of the American Medical Association* (Volume 249, page 1161, March 4, 1983) entitled "Reduction of Blood Pressure With Calcium Supplementation in Young Adults." In their commentary on the study of 57 subjects, they state that 1 gram of calcium had a significant reduction of blood pressure in both young men and young women; there was a little sex difference in the blood pressure reduction — 5% in women and 9% in men. The cause of the blood pressure drop seems unknown. They speculate that it might have to do with the migration of calcium in and out of cells; they also wonder if it might not in some way relate to parathyroid hormone. The question of the relationship of calcium to prostaglandins and sodium was also raised. In any event, calcium does reportedly significantly lower blood pressure in this group of young people whose ages averaged 25.8 years or less.

The relationship of dietary fat to blood pressure was also the subject of an article published in *The Lancet* (Volume I for 1983, page 1, January 1-8, 1983) by the Department of Epidemiology of the National Public Health Institute of Helsinki, Finland, the Human Nutrition Center of the United States Department of Agriculture, and the Department of Nutrition of the University of Helsinki. The article was entitled "Controlled, Randomised Trial of the Effect of Dietary Fat on Blood Pressure." The authors felt that there was definitely a relationship between the fat composition of the diet and blood pressure. In a previous study, some of the authors found that a marked cholesterol-lowering diet could reduce the blood pressure in normotensives. In this study, they not alone included normotensives but they also studied to determine whether or not hypertensives could have a low-

ered blood pressure by a low cholesterol diet with a high polyunsaturated fat to unsaturated fat ratio. They divided their subjects into three groups. The first was low in total fat and had a high polyunsaturated fat to unsaturated fat ratio. In Group II the diet was low in salt. In Group III there was no change in the diet — it was a control group. They found that restriction of dietary salt did not seemingly have any benefit as measured by this clinical trial. On the other hand, a low fat diet with a high polyunsaturated fat to saturated fat ratio did reduce the blood pressure in normal patients and in hypertensives. The cause of this is not known.

In an accompanying article in the same journal, Rouse, Armstrong, Beilin, and Vandongen (*The Lancet*, Volume I for 1983, page 5, January 1-8, 1983) report on the blood pressure lowering effect of a vegetarian diet. They studied healthy normotensive individuals. They switched them from an omnivorous diet to a vegetarian diet and their blood pressure fell mildly. This was apparently unrelated to changes in potassium or salt intake.

Alcohol and hypertension has been the subject of numerous studies. A recent editorial in *Archives of Internal Medicine* (Volume 143, page 28, January, 1983) is on this subject. The authors, Larbi, Cooper, and Stamler, state that "there seems to be a causal relationship between alcohol consumption and hypertension, since cessation of alcohol consumption leads to a fall in blood pressure, and resumption of drinking gradually leads to an increase in blood pressure." The authors are generally referring here to real heavy drinkers, for example those taking five or more drinks per day. The exact cause of the elevation of blood pressure from the use of alcohol is unknown. There may be some underlying defect which makes alcoholic subjects specifically susceptible to the hypertensive effects of alcohol.

True hypotension is often a very difficult problem to treat. Many therapeutic measures have been tried as a remedy for orthostatic hypotension. Two have recently been reported. First of all, Robertson, Goldberg, Hollister, Wade, and Robertson have reported on the use of Clonidine as a remedy in severe orthostatic hypotension (*American Journal of Medicine*, Volume 74, page 193, February, 1983). They report on four patients who seemed to have true idiopathic orthostatic hypotension which they felt was of the peripheral variety; the patients did not have



extrapyramidal symptoms or cerebellar dysfunction. They were generally in good health. They also had a patient with baroreceptor dysfunction type of orthostatic hypotension. Robertson, et al, put these patients on Clonidine and found that the blood pressure in two patients increased approximately 40 mm (systolic) on a dose of Clonidine 0.4 mg twice a day. The effect lasted several hours. These patients were continued on 0.4 mg. Two other patients with idiopathic orthostatic hypotension also had an increase in blood pressure using Clonidine, but they required 0.8 mg per dose in order to get a therapeutic response. The size of the dose caused so many side effects the medication was stopped on the latter two patients. Robertson, et al, also state that they tried Clonidine on the patient with baroreceptor dysfunction and it was ineffective. The authors postulate that the patients who were the basis of this study had no functioning sympathetic nervous system outflow which could be stopped by a hypotensive drug as Clonidine; they further stated that Clonidine has a direct pressor effect on Alpha II receptors and a very mild Alpha I agonist. One of the interesting commentaries made by these investigators was that Alpha II receptors may be largely in the veins — and if the Alpha II receptors are stimulated, it would decrease the size of the veins and thus increase venous return to the heart.

Ergotamine has also been proposed as a means of treating chronic orthostatic hypotension. The results of treatment with this drug are reported by Chobanian, Tifft, Faxon, Creager, and Sackel (*Circulation*, Volume 67, page 602, March, 1983). The authors studied four patients who had chronic orthostatic hypotension. They were treated with oral Ergotamine Tartrate in doses of 2-6 mg per day. Numerous different studies were made on the patients but the thrust of the article was that the patients' orthostatic hypotension did respond to Ergotamine. Not alone did the blood pressure go up, but the patients symptomatically felt better. It is stated that the number of syncopal episodes and the sense of impending syncope diminished. Chobanian, et al, state that the effects of Ergotamine usually last 4-8 hours. The authors stated that they tried to use the smallest possible doses of Ergotamine to avoid the side effects of peripheral vasoconstriction and angina pectoris. The studies on these patients indicate that their blood pressure went up because of increased peripheral resistance rather than an increase in cardiac output. The authors emphasize the fact that Ergotamine definitely caused veno constriction. Lastly, they felt that Ergotamine Tartrate was safe for long-term usage if patients were monitored and if the dosages of Ergotamine Tartrate employed were kept low.



## *"From Other Years"\**

*Journal of the Arkansas Medical Society*

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### COUNTY SOCIETIES

(The Scientific Proceedings of County Societies are requested for publication in this Department.)

### THE SOUTHWEST ARKANSAS MEDICAL ASSOCIATION.

The fifth meeting of the Southwest Arkansas Medical Association was held at Hope, Monday, July 4th. The attendance was larger than ever before, several counties being represented.

The following physicians were present, Dr. E. R. Armistead, presiding: W. E. Arnold, Prescott; J. R. Dale and F. R. Fleming, Arkadelphia; T. H. Baird, Washington; J. R. Autrey, Columbus; T. J.

Draper, Mineral Springs; H. L. B'Shers, Fulton; T. H. Green, T. A. McLarty, H. J. F. Garrett, L. J. Gillespie, T. J. Garner, W. B. Foster, R. B. Vinson and R. M. Wilson, Hope.

Dr. W. T. Rowland, of Arkadelphia, was voted on and received to membership.

The following interesting papers were read and elicited animated discussion:

"Malarial Haematuria," W. M. Moore, Hollywood; "Conjunctivitis," F. R. Fleming; "Surgical and Mechanical Aid in Joint Troubles," J. R. Dale; "Report of a Case of Psoas Abscess," W. T. Rowland; "A Case of Retained Placenta," W. B. Palmer, Rock Creek. E. R. Armistead made a verbal report of a case of double ovariectomy, with recovery.

On vote, it was decided to meet quarterly instead of semiannually, as heretofore. Hope was selected as the next place of meeting, to be held October 4th.

We have thirty-six members and hope to have

a good attendance and many new members at our next meeting.

R. M. WILSON, *Secretary*.

From the University of Arkansas for Medical Sciences Library, History of Medicine/Archives.



## MEDICINE IN THE NEWS



### THE MONTH IN WASHINGTON

Congress raced through legislation this month designed to rescue the nation's Social Security system from bankruptcy and insure its solvency into the 21st Century. The bill was sent to President Reagan for his signature before the Easter recess.

Attached to the Social Security Act of 1983 are measures that will heavily impact on the nation's health care system. The bill contains provisions to hold down the cost of Medicare payments to hospitals through a prospective payment plan based on diagnosis-related groups (DRGs). Hospitals would be paid on the basis of 467 DRGs regardless of the costs actually incurred in treating patients.

Under the bill approved by Congress:

- DRG payments would be phased in over three years, beginning with the hospital's first cost reporting period after October 1, 1983. In the first year, 25 percent of the payment would be based on DRG rates and 75 percent on the hospital's cost base. The percentage of the payment based on DRG's would gradually increase until it reached 100 percent in the fourth year.

- In the first year, the DRG portion of the payment would be a regional rate. A rural and an urban rate would be calculated for each of nine regions. In the second and third years, the DRG portion would be a blend of national and regional rates and by the fourth year, the 18 regional rates would give way to two national rates — one urban, one rural.

- Rates in 1984 and 1985 would be adjusted by the market-basket index of hospital costs plus one

percent but they would be reduced to the extent this resulted in payments exceeding those that would have applied under the Tax Equity and Fiscal Responsibility Act targets.

- Beginning in 1986, the increase factor would be determined by the Secretary of HHS and reviewed by a 15-member Commission appointed by the Office of Technology Assessment. The Commission is to include representatives of a wide range of groups, including new technology and treatments, the Commission is to recommend changes in the recalibration of the DRG classifications.

- Direct medical education expenses would continue to be paid on a cost basis and the current Section 223 adjustment for indirect medical education expenses would be doubled in the DRG system.

- Capital costs incurred before the system takes effect will continue to be reimbursed on a reasonable cost basis until October 1, 1986. New capital costs may or may not be paid on a reasonable cost basis. States would be required to have Section 1122 review systems and Medicare reimbursement for new capital costs would be conditioned on 1122 approval. The maximum threshold the state may use for requiring an 1122 review is increased from \$100,000 to \$600,000.

- Return on equity for proprietary hospitals would be reduced.

- Certain types of institutions would be exempt from the DRG system.

- From now until October 1, 1983, hospitals are required to contract with a PRO to monitor utilization if there is a PRO in the area. After



October 1, the hospital is required to contract with a PRO and cannot be paid by Medicare if a PRO review is not performed. Intermediaries will be allowed to participate in the PRO program by October 1, 1984 at the latest.

- State payment systems covering all payors would be encouraged through waivers if the state system would cost Medicare no more than the federal DRG system.
- HHS is to report in 1985 on the "advisability and feasibility" of applying DRG's to physician charges for hospital services and is to recommend legislation to apply DRG's to physicians.

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In its first public comments on the Federal Trade Commission (FTC) in the 98th Congress, the American Medical Association urged legislation that would limit the scope of the agency's authority.

"We believe Congress should limit the application of the FTC Act . . . in such a way as to provide adequate safeguards that will allow continuation of beneficial patient advocacy activities," AMA Board Chairman Joseph F. Boyle, M.D., told Congress.

The AMA waged a hard-fought battle against the jurisdiction of the FTC over the professions during the waning hours of the 97th Congress.

Testifying in March before both House and Senate committees, Dr. Boyle suggested that a "rule of reason" analysis should be applied when professional regulatory activities are before the courts. (The rule of reason is used to distinguish unreasonable restraints from those that promote the public interest.)

In his prepared statement, Dr. Boyle said "Congress should protect traditional state regulatory activities, and make clear that responsible self-regulatory activities — such as accreditation of educational programs, accreditation of health care institutions, certification of entry-level competence of members, peer review activities to assure quality services and reasonable charges, and regulation of unethical conduct — are appropriate roles for the professions.

Dr. Boyle said that professional associations currently were abandoning many activities that benefit the public because the associations feared they would become involved in expensive and time-consuming litigation with the FTC.

"If these activities are halted, the real loser is

the consumer, whom such activities are intended to protect," he said.

Dr. Boyle noted that last year the FTC had said it did not want to regulate the quality or clinical side of medical practice, nor did it wish "to interfere with professional review of exorbitant fees or with responsible self-regulatory activities against unethical practices and unqualified members of the profession."

While the FTC has expressed its intention to regulate only the business and commercial aspects of medicine, the physician went on, "associations must be extremely cautious in these areas because of the risk of expensive and time-consuming administrative action."

He noted that the AMA had begun a series of discussions with the FTC chairman in an attempt to resolve these issues.

Dr. Boyle also emphasized that while the AMA was seeking to limit the FTC's authority, it never had condoned violations of the antitrust laws, such as unlawful boycotts or price-fixing.

In addition to supporting the application of the "rule of reason" analysis, Dr. Boyle also backed other modifications in the FTC Act, including a definition of unfair acts or practices to require substantial consumer injury that is not outweighed by countervailing benefits, the inclusion of the prevalence requirement for rulemaking, repeal of the intervenor funding program, and incorporation of the state action doctrine into the federal law.

Major changes in the FTC's jurisdiction were opposed by the Coalition to Save the Jurisdiction of the FTC over the Professions, which said that "special interest group exemptions from the laws which the rest of American business must follow cannot be permitted."

The coalition's statement was signed by some 30 organizations, including the American Chiropractic Assn., National Assn. of Social Workers, American College of Nurse-Midwives, American Dental Hygienists Assn., American Nurses Assn., Washington Business Group on Health, United Auto Workers, National Council of Senior Citizens, American Assn. of Retired Persons, and the American Public Health Assn.

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President Reagan has sent his "Health Incentives Reform" package to Congress, warning that "because of the coming shortage in the Medicare

Trust Fund, prompt action is particular important."

The package of five bills contained a series of recommendations that Administrative officials have been discussing in public for several months. An outline of most was contained in the fiscal 1984 budget submitted to Congress in January.

The President said his health care proposals, including a one-year freeze on Medicare payments to physicians and a prospective payment system for hospitals, would save more than \$4.2 billion in the next fiscal year. He said \$2.3 billion would be saved from a proposal to tax employees on health insurance premiums paid by employers, \$17 billion would be saved by trimming Medicare benefits and by increasing the amount paid by patients, and \$250 million would be saved by reducing the anticipated growth of Medicaid.

"Health care costs are climbing so fast they may soon threaten the quality of care and access to care which Americans enjoy," Reagan said. He commented that rising health care costs are a problem that affects all levels of society.

Reagan's message to Congress contained five specific pieces of legislation.

Following are brief summaries:

- **Medicare Catastrophic Hospital Costs Protection Act.** This measure is designed to improve coverage for lengthy, expensive hospitalization and to introduce a co-insurance provision for the initial days of hospitalization.

Under terms of the bill, Medicare reimbursement would be available for unlimited days of hospitalization. At the same time, however, the bill would impose co-insurance for a maximum of 60 days a year (8% of the inpatient hospital deductible for the second through 15th day of an illness and 5% thereafter). The bill also limits to two the number of inpatient hospital deductibles that could be imposed annually and reduces the skilled nursing facility co-insurance rate to 5% from 12.5% of the inpatient hospital deductible.

- **Medicare Prospective Payment Rates Act.** The bill would establish a system of prospectively determined rates specifically related to the patient's condition. Rates would be set for each of 467 diagnosis-related groups. Capital expenditures and medical education costs would be excluded at first from the calculation of basic payments and reimbursed separately. Differences in area wage rates would be taken into account, and

additional payments would be made for unusual cases involving lengthy hospital stays.

- **Health Cost Containment Tax Act.** The bill would limit tax-free health benefits paid by an employer to \$175 monthly for family coverages and \$70 for individual coverages, with the amounts indexed in relationship to the consumer price index. Employer contributions above those amounts would be included in the employee's income and taxed (income and Social Security) accordingly. "Elaborate health benefits funded with tax-free, employer-paid contributions are inflationary," the President said. "They insulate consumers, providers, and insurers from the cost consequences of health care decisions."

- **Medicare Voucher Act.** This would allow Medicare beneficiaries to use their Medicare benefits to enroll in a variety of private health plans. Medicare would contribute an amount equal to 95% of what it would have cost to care for the beneficiary if he or she had chosen traditional Medicare coverage. If a beneficiary selects a private health plan with a premium lower than Medicare's contribution, the beneficiary would be eligible for a cash rebate from the private plan. If the private coverage costs more than Medicare's contribution, the beneficiary would have to pay the difference.

- **Health Care Financing Amendments of 1983.** This bill contains a variety of provisions, including the controversial one to freeze Medicare customary and prevailing charges for physician services at 1983 levels.

The legislation would freeze the Part B premium at the current level of \$12.20 per month for the remainder of 1983, foregoing a previously announced increase to \$13.50 in July. In January of 1984, the Part B premium would be set at 25% of program costs for aged beneficiaries for that calendar year.

During the next four years, the premium would be increased 2.5 percentage points each year, reaching 35% of the program costs for the elderly in January, 1988. After that time, the premium for each calendar year would be set at 35% of program costs for the elderly for that year.

The President noted that when Medicare began, Congress envisioned that the elderly would bear 50% of the Part B costs and the law initially required that these costs be financed equally by tax revenues and Part B beneficiaries.

Reagan's proposal also calls for indexing the



Part B deductible in January of each year, based on annual changes in the Medicare economic index.

Another provision would require states to impose nominal co-payments on all Medicaid beneficiaries for hospital, physician, clinic, and outpatient department services.

The President's message emphasized that the legislative package "reflects our most thoughtful effort to address and reform the basic economic incentives that operate in the health care sector.

"Our need to constrain the growth of our national spending for health care in the interest of a healthy and stable economy is urgent," he said. "Regulatory approaches to health care cost containment tried previously have proven ineffective and sometimes counterproductive to this goal."

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The Reagan Administration's proposal to freeze physician reimbursement levels under Medicare's "reasonable charge" system drew sharp criticism from the AMA.

"A freeze is especially unfair in light of continued cost increases that physicians must face in their practice," AMA Executive Vice President James H. Sammons, M.D., told the House of Representatives Task Force on Entitlements.

"Is the federal government now going to pay 1983 prices to all suppliers in 1984?" he asked. The answer is obviously no.

"We believe that it is unfair to freeze the costs of one sector of the economy while not asking . . . other professionals to accept a freeze and while allowing prices paid to other suppliers to rise," he continued.

Dr. Sammons noted that the number of patients without health insurance coverage is increasing because of the current recession and emphasized, "Physicians all over the country are treating these patients free or for greatly reduced fees." More than 40 medical societies have organized programs to assure care to the needy, he said.

The AMA official also pointed out that while 91% of all physicians accept some Medicare claims on assignment, just over half of all Medicare claims are on an assigned basis.

"The primary reasons why so few claims are accepted on assignment are administrative deterrents, paperwork, and inadequate reimbursement levels," he said.

"The result of the further reductions proposed by freezing any reimbursement increase would

be a further disincentive to acceptance of Medicare assignments." This, he said, could result in increased costs to be paid by patients.

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The American Medical Association has criticized the proposed minimum conditions that hospitals must meet to participate in Medicare and Medicaid if they are not accredited by the Joint Commission on the Accreditation of Hospitals (JCAH).

"We are concerned that certain elements necessary to assure quality have been overlooked in revising the conditions," AMA Executive Vice President James H. Sammons, M.D., said in a letter to Carolyne K. Davis, PhD., administrator of the Health Care Financing Administration (HCFA).

The proposal fails to recognize the importance of medical supervision and direction of patient care in acute care general hospitals, Dr. Sammons said.

The use of the term "physician" came under closest scrutiny. The proposed conditions would use the term to include dentists, podiatrists, optometrists, and chiropractors in addition to doctors of medicine and osteopathy.

"The AMA strongly opposes this definition. Such a broad definition would drastically lower the quality of patient care," according to the Association's comments on the proposed rule that was published in the Federal Register.

The provision should be rewritten to indicate that patients may be admitted only by a fully-licensed physician and must be under the supervision of an MD or DO in accordance with medical staff bylaws, the AMA recommended.

HCFA has announced that the revised conditions would cover only 1,500 small rural hospitals with less than 10% of the nation's acute care beds.

The proposal assumes that hospitals currently seeking JCAH accreditation will continue to seek and receive approval from that voluntary, private-sector organization.

The proposed conditions are intended to establish only minimum standards that a hospital should meet. In the Association's view, those minimum standards are too minimal. They would fail to create adequate standards for a small or rural hospital and would be even more inadequate for a modern metropolitan medical center, the AMA said in its comments.

"Given the significant adverse impact that the

proposed rule could have, and the fact that there is no urgency to establish new conditions, it should be withdrawn," the 44-page document said.

The proposal would elevate current "standards" for surgical care, anesthesia rehabilitation, respiratory care, and infection control to the level of "conditions" of participation in Medicare and Medicaid.

Of these new conditions, all but infection control would be categorized as an optional hospital service. Optional services would also include nuclear medicine services, outpatient services, and emergency services.

All hospitals would be required to meet the conditions for certain basic functions including quality assurance, medical staff, nursing services, pharmaceutical services, radiologic services, laboratories, food and dietetic services, utilization review, physical environment, and infection control.

The proposed revision adds new conditions for nuclear medicine and quality assurance, while deleting current conditions for medical library services and social work services.

The existing conditions of participation have been in existence since 1966. One requirement in the current conditions not carried forward in the proposal states that the medical staff is to attempt to secure autopsies "in all cases of unusual deaths, and of medical-legal and educational interest." The current standard goes on to recommend that a minimum of 20% of all terminal cases be autopsied.

The AMA recommended incorporation of the existing autopsy standard, with a change to indicate that a physician performing an autopsy must be a fully-licensed MD or DO.

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In mid-month American Medical Association leaders met with President Reagan to discuss the Administration's budget proposals.

AMA President William Y. Rial, M.D., President-Elect Frank J. Jirka, Jr., M.D.; Chairman of the Board of Trustees Joseph F. Boyle, M.D.; Vice Chairman of the Board John J. Coury, Jr., M.D.; Executive Vice President James H. Sammons, M.D.; Deputy Executive Vice President Whalen M. Strohhbar; Vice President for Public Affairs Wayne W. Bradley; and Director of the Dept. of Federal Affairs Paul R. M. Donelan visited the White House to speak with President Reagan, Margaret Heckler, HHS Secretary; Craig

Fuller, Cabinet Secretary; John Svahn, HHS Undersecretary; Donald Moran, Executive Associate Director of the Office of Management and Budget; Robert Carleson, Executive Secretary of the Cabinet Council on Human Resources; Edwin Harper, Assistant to the President for Domestic Policy Development, and Faith Whittlesey, Assistant to the President for Public Liaison.

In addition to presenting the Association's positions on provisions in the proposed budget, the AMA officials urged the President to upgrade the position of the Assistant Secretary for Health to the level of an Undersecretary with jurisdiction over all HHS health activities.

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Early in the month Margaret Heckler was sworn in as Secretary of the Department of Health and Human Services following the Senate's approval of her nomination by a vote of 84-to-3.

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The AMA has commended and lent its strong support to the report of the Presidential Commission on Drunk Driving, calling it a significant contribution in a national effort to reduce the lives lost and the injuries sustained in accidents caused by drunk drivers.

In a statement to John A. Volpe, Commission chairman, the Association points out that it believes that increased efforts at reducing the carnage on our highways caused by drunk driving are long overdue. "Physicians who must treat the victims of such accidents are fully aware of the physical and emotional suffering resulting from automobile accidents."

The 18-page statement details Association activities over the years to reduce on both state and national levels the epidemic proportions of accidents involving drunk drivers that kill nearly 26,000 Americans each year.

In a point-by-point discussion of the many recommendations of the Commission, the Association differs at times with details, but overwhelmingly commends and supports the broad thrust of the report.

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The American Medical Association has opposed Senate Joint Resolution 3 which would amend the U. S. Constitution to allow federal and state governments to place restrictions on or prohibit abortions. Despite AMA's opposition, the Senate Judiciary Constitution Subcommittee approved the amendment which would reverse the Supreme



Court decision legalizing abortion.

In an early March statement to the subcommittee chaired by Senator Orrin Hatch (R-UT), the Association pointed out its concern with such legislation is that women could potentially be "denied a necessary medical procedure. Abortion is a recognized medical procedure. The medical indications for abortions are numerous including ectopic pregnancy, incomplete spontaneous abortion (miscarriage), malignant embryo, cardiovascular conditions of the mother, and the use of prescription drugs that are essential to the mother that may have serious adverse effects on the fetus. The consequences of not having an abortion when these indications are present can be grave, even fatal."

The statement concluded:

"If Senate Joint Resolution 3 is adopted, we are gravely concerned that women may be denied necessary medical care. We are also concerned about the physical and mental consequences that may be suffered by women who resort to illegal abortions. The precedent for and the possibility of improper governmental interference into medical practice by singling out a medical procedure for prohibition or restriction is inappropriate. The interference in the relationship between a woman and her physician that may result from this amendment causes us great concern."

The subcommittee ruled 3-0 in favor of the amendment to overrule the Supreme Court. The amendment faces a tough fight in the Senate and the House this year.

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Data in a recent nationwide public opinion survey conducted person-to-person among 1,503 voting-age Americans show that while there is considerable sentiment among the American public for change in the nature and extent of campaign financing, opposition remains strong to extending public financing to congressional campaigns.

The sampling was conducted by Civic Service, Inc., a St. Louis based political research organization. The sampling procedure was designed by a number of nationally-known political scientists.

The survey found that by a margin of nearly two-to-one, voting-age Americans oppose the use of public funds for congressional campaigns — "and that this opposition has remained relatively constant" since the first benchmark question seven years ago.

While political action committees do not receive strong public endorsement in relation to other social action groups, according to the survey, a majority of sentiment in the coast-to-coast poll indicated that PACs "should be allowed to contribute financially to federal election campaigns for Congress and President—."

The survey — Attitudes Toward Campaign Financing — had the support of the American Medical Political Action Committee.

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The American Academy of Pediatrics' (AAP) request for a temporary restraining order of regulations on the treatment of severely handicapped newborns has been denied by the federal court in the District of Columbia.

The court ruled that AAP had not demonstrated that irrevocable harm would be done if the rule went into effect in late March.

However, the court has scheduled a hearing on April 8 to hear arguments on the merits of the rule.

James S. Strain, M.D., AAP President, said the rules could result in medically wrong bedside decisions for handicapped infants. Dr. Strain said federal agencies should not be involved in such issues, because federal officials "are not equipped medically or in any other way to really deal with the decisions of life or death matters in newborns."

"We feel that the decisions that might be forced on the doctor in that situation might very well be harmful rather than in the best interest of the child," he said.

Commenting on the required notices and the HHS hotline, Dr. Strain said, "that is not an appropriate thing to have in an intensive care newborn nursery where parents are under a great deal of stress anyway."

"A parent of another child, an aide, nurse, social worker, or janitor — anybody who in his estimation believes that the child is not getting appropriate care — can report that to the hotline. That would set a process of investigation in motion that would involve non-medical people in those decisions."

Dr. Strain pointed out that physicians do not want to be in the position of having to decide alone how to deal with life threatening, handicapping conditions. Most hospitals have a review and ethics committee for this purpose.

"The decision-making process is a slow, deliberate one that involves a lot of people, but it

involves people that are knowledgeable about that particular situation and child. You can't set down guidelines that are going to fit every child and situation," Dr. Strain commented.

"This has to be done at the local level and can't be done by somebody outside, particularly, a person that doesn't have training and background in the care of infants."

The HHS rule was developed after the death last year of a six-day-old boy in Bloomington, Ind., known only as "Infant Doe." He was afflicted with Down's syndrome and died after food and medical treatment were withheld at the request of the child's parents, supported by the family physician and the Indiana Supreme Court.

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#### **JOINT COMMISSION ON ACCREDITATION OF HOSPITALS (JCAH) STANDARDS UPDATE FROM THE AMERICAN MEDICAL ASSOCIATION**

With respect to the standards of the Joint Commission on Accreditation of Hospitals (JCAH), it is imperative to emphasize that there is one primary, over-riding principle to which the AMA is devoted.

It is that physicians, individually and collectively, as members of hospital medical staffs, are and should be responsible for staff structure, credentials, privileges, quality assurance and due process.

It is equally important to recognize that total responsibility for the quality of patient care does, and must, rest where it has always been: with the individual hospital governing board and its medical staff.

It is in keeping with that unswerving commitment that the AMA Board of Trustees had asked the JCAH to incorporate certain provisions into the Medical Staff chapter of its 1984 "Accreditation Manual for Hospital," which was expected to be published in August, 1983.

The AMA's views on those provisions were circulated to members in February, 1983, for their review.

Reaction was immediate and emotional. As a consequence, on April 8, 1983, the AMA Board of Trustees confirmed an action taken in March by the AMA Commissioners to the JCAH.

The action outlined a set of principles for

inclusion in future drafts of the Medical Staff chapter.

The principles are:

1. Continue the use of the term "Medical Staff" in the title of the chapter and throughout the accreditation manual.
2. Delete references to dentists, podiatrists, oral surgeons and other limited-licensed practitioners in the Medical Staff chapter.
3. Ensure access for limited-licensed practitioners.
4. Require greater than a simple majority of fully licensed physicians on the medical staff executive committee in acute-care general hospitals.
5. Provide for exceptions to item 4 in other hospitals.
6. Ensure that all hospitalized patients receive the same standard of care through appropriate language relating to admissions and the responsibility for the medical care of patients.

At its meeting on March 27, the JCAH Standards and Survey Procedures Committee instructed JCAH staff, with professional assistance, to draft standards language for principles similar to those approved by the AMA Board of Trustees.

The AMA Board had previously requested the JCAH Board of Commissioners to defer final action on any revisions in the Medical Staff chapter until its August meeting, to allow for full consideration of the issue by AMA members.

The JCAH Standards and Survey Procedures Committee has instructed its subcommittee on the Medical Staff Standards to recommend a new draft of the Medical Staff chapter to the full committee. No final action on the Medical Staff standards is expected before the August meeting of the JCAH Board of Commissioners, with publication of the 1984 "Accreditation Manual for Hospitals" scheduled for October 1983.

Throughout the remainder of the standards revision process, the AMA will continue to strive for the development of standards that provide for quality patient care; are flexible; meet the needs of physicians and hospitals; and recognize the legal aspects of standard-setting activities.

Other members of the JCAH are the American College of Physicians; American College of Surgeons; American Dental Association; American Hospital Association; and one public member.



# keeping up

## Category 1 Continuing Medical Education Programs Available in Arkansas

### NEW HYPERTENSIVE THERAPY

Presented by Ron Hughes, M.D., 7:00 p.m., July 18, Private Dining Room, Memorial Hospital, North Little Rock. One hour Category I credit.

### NEUROLOGICAL EMERGENCIES

Presented by Michael H. Luzecky, M.D., Cox Medical Center, Springfield, Missouri. August 16, 7:00 p.m., Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### REHABILITATION OF THE PATIENT WITH SYMPTOMATIC CORONARY DISEASE: AN OVERVIEW

Presented by Nanette K. Wenger, M.D., Profes-

sor of Medicine (Cardiology), Emory University School of Medicine, Atlanta. July 19, 7:00 p.m., Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit.

### CHEMOTHERAPY OPTIONS IN THE MANAGEMENT OF CANCER OF THE LUNG AND OF THE LARGE BOWEL

Presented by Frank J. Panettiere, M.D., August 16, 7:30 p.m., Bella Vista Country Club, Bella Vista. Sponsored by AHEC-NW. One hour Category I credit.

### RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

#### EL DORADO — AHEC-SOUTH ARKANSAS

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., second Friday, Warner Brown Hospital, third Friday, Union Medical Center.

#### FAYETTEVILLE — AHEC-NW

*Medicine Teaching Conference*, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

#### FAYETTEVILLE — VA MEDICAL CENTER

*Pathology Conference*, third Thursday, 3:00 p.m., Conference Room.

*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.

*Mortality Conference*, second Thursday, 3:00 p.m., Conference Room.

*Peer Exchange*, July: "Cardiology", John Watson, M.D.; August: "Pulmonary", Roger Bone, M.D.

#### FORT SMITH — AHEC

*Tumor Conference*, each Tuesday, 12:00 noon, Sparks Regional Medical Center, Fourth Floor Conference Room.

*Neurology Conference*, second Tuesday, 12:15 p.m., Sparks Regional Medical Center Library.

*Thoracic and Cardiovascular Conference*, third Thursday, 12:15 p.m., Sparks Regional Medical Center.

#### JONESBORO — AHEC-NORTHEAST

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.

*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

*OB/GYN/PED Conference*, last Tuesday, 5:30 p.m., St. Bernard's Dietary Conference Room.

*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

## KEEPING UP

*Continuing Medical Lecture Series*, each Friday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

### LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

*Pediatric Radiology/Genetics Conference*, each Monday, except first Monday in July, 12:00 noon, Burn Conference Room.  
*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Physicians' Conference Room.  
*Primary Care Seminar*, each Wednesday, 8:15 a.m., Physicians' Conference Room.  
*Infectious Disease Conference*, second Wednesday, 12:00 noon, Physicians' Conference Room.  
*Problem Case Conference*, each Thursday, 12:00 noon, Physicians' Conference Room.

### LITTLE ROCK — BAPTIST MEDICAL CENTER

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.  
*Cardiopulmonary Resuscitation Course*, third Tuesday, 7:00 p.m. to 1:00 a.m., Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)  
*Emergency Medicine Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.  
*Case of the Month*, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*General Internal Medicine Conference*, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*Renal Conference*, fifth or last Wednesday each month, 12:00 noon to 1:00 p.m., Conference Room #1. (When there are four Wednesdays in the month, conference will be on fourth Wednesday and there will only be one Case of the Month Conference.)  
*Morbidity and Mortality Conference*, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1. CANCELLED FOR JUNE, JULY, AUGUST.  
*Surgery Conference*, second, third, fourth and fifth Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1. CANCELLED FOR JUNE, JULY, AUGUST.  
*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.  
*Cardiology Conference*, fourth Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.

### LITTLE ROCK — ST. VINCENT INFIRMARY

*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.  
*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.  
*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.  
*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.  
*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.

### LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

*Psychiatry Grand Rounds*, each Monday, 12:00 Noon to 1:00 p.m., Child Study Center Auditorium.  
*Internal Medicine Grand Rounds*, each Thursday, 8:00 a.m. to 9:00 a.m., Auditorium, Shorey Building, UAMS.  
*Surgery Grand Rounds*, each Saturday, 9:00 a.m. to 10:00 a.m., Education 11 Building, Room G1-131 A&B.  
*Medical Service Teaching Conference*, each Monday, 3:30 p.m. to 4:30 p.m., VA Building 58, Room 301.  
*Mental Health Services Grand Rounds*, July 5, 10:00 a.m., Arkansas Department of Health.  
*Basic Sciences Conference*, each Tuesday, 11:00 a.m. to 12:00 noon, Education II Building, Room G1-135.  
*Orthopaedic Grand Rounds*, each Tuesday, 10:00 a.m. to 11:00 a.m., Education II Building, Room G1-135.  
*Bibliography Conference*, each Tuesday, 8:00 a.m. to 9:30 a.m., Education II Building, Room G1-135.  
*Fracture Conference*, each Tuesday, 7:00 a.m. to 8:00 a.m., Education II Building, Room G1-135.

### TEXARKANA — AHEC SOUTHWEST

*AHEC Tumor Conference*, first Wednesday, 7:00 a.m., St. Michael Hospital.  
*AHEC Chest Conference*, third Wednesday, 12:30 p.m., St. Michael Hospital.  
*AHEC Regional Nephrology Conference*, last Wednesday, 7:00 a.m., St. Michael Hospital.







## PERSONAL AND NEWS ITEMS

### DR. ROBINSON RETIRES

After 62 years of active practice, Dr. G. Allen Robinson of Harrison, Arkansas, retired March 1, 1983. He is the last surviving member of the Medical Class of 1919 at Vanderbilt. Dr. Robinson will pursue his hobby of golf and continue his interest in the Robinson Medical Museum and Heritage Center, located at his Valley Springs farm, three miles from Harrison.

### DR. WILSON HONORED

Dr. Steve Wilson of Fort Smith has received the "Arkansas Small Business Person of the Year" award. Secretary of State Paul Riviere presented the award to Dr. Wilson as board chairman of Merry-Go-Round Glass Company. Dr. Wilson will attend ceremonies in Washington commemorating National Small Business Week.

### DR. PAPPAS

Dr. James J. Pappas, of Little Rock, was elected to active membership in the American Otological Society, Inc., at the group's recent annual meeting in New Orleans. The Society was founded in 1868 and is the oldest society of otologists world-wide. The purpose of the Society is (a) to advance and promote medical and surgical otology, including the rehabilitation of the hearing impaired; (b) to encourage and promote research in otology and related disciplines; (c) to conduct an annual meeting of the members for the presentation and discussion of scientific papers and the transaction of business affairs of the Society; (d) to publish the papers and discussions presented during the scientific program and the proceedings of the business meeting. Currently, there are approximately 110 active members and 40 senior members of the American Otological Society.

### DRS. PANETTIERE AND BLEDSOE

Drs. Frank Panettiere and James Bledsoe spoke on cancer and the problems of cancer patients at a health forum sponsored by S. Mary-Rogers Memorial Hospital in Rogers.

### DR. SMITH HONORED

Dr. John McCollough Smith was honored at a dinner at Asbury Methodist Church for his work as physician for Little Rock Central athletic teams.

### DOCTORS PARTICIPATE

Drs. Bill Trantum, David Barclay and Richard

Babaian participated in the 19th Annual Cancer Workshop for Nurses held in Little Rock recently.

### NEW OFFICE

Drs. Robert W. Lehmberg, Robert G. Vogel and Raymond Wende have announced the opening of their new office at 11213 Hermitage Road for Plastic and Reconstructive Surgery.

### DR. YOUNG SERVES

Dr. Michael Young of Prescott served as course director for an Advanced Cardiac Life Support Course sponsored by the Magnolia Hospital. Dr. Rodney Griffin of Magnolia also participated in the program.

### DR. DICKSON SPEAKS

Dr. Bud Dickson of Little Rock spoke to the Ozark Chapter of the American Association of Retired Persons on arthritis.

### SPORTS MEDICINE CLINIC

Dr. Douglas Parker, Jr., of Fort Smith was program chairman for a sports medicine clinic sponsored by Sparks Regional Medical Center and Holt-Krock Clinic. Clinic speakers included: Dr. J. Pat Evans of Dallas, Orthopaedic consultant for the Dallas Cowboys and the Mavericks; Dr. Robert Vandermeer of Dallas, team Surgeon for the Southern Methodist University Mustangs; Larry Gardener, Director of Rehabilitation for The Texas Clinic and a former trainer for the Dallas Cowboys; and Fort Smith physicians Drs. Cole Goodman, Peter Irwin, James Long, Albert MacDade and Marvin Mumme.

### DR. BORNHOFEN SPEAKS

Dr. John Bornhofen of Little Rock spoke on "Seizures and Long-Term Effects of Seizure Medication" at a meeting of the Central Arkansas Speech Pathology Education and Research Group.

### DRS. CLEMENS AND HALL PARTICIPATE

Dr. Dale Clemens of Siloam Springs spoke on Preventive Medicine in areas of cancer, toxic shock and herpes and Dr. Joe B. Hall of Fayetteville spoke on cardiac stress at a Well-Woman Seminar sponsored by the Siloam Springs Memorial Hospital Auxiliary.

### DR. SPRINGER ELECTED

Dr. M. R. Springer, Jr., of Hot Springs has been elected by the Ouachita Memorial Hospital medical staff as representative to the Regional

Medical Advisory Board of American Medical International.

#### **DR. MABRY SPEAKS**

Dr. Charles Mabry of Pine Bluff discussed home safety as part of a course given for babysitters. The course was sponsored by the Jefferson County Medical Society Auxiliary.

#### **DR. BUTLER**

Dr. G. Harrison Butler of Fayetteville presented a program on management of heart disease at a community health education program held at Washington Regional Medical Center.

#### **DR. MILLER SPEAKS ON AHEC**

Dr. Donald L. Miller, director for the AHEC in Pine Bluff, discussed the AHEC program at a meeting of the West Pine Bluff Rotary Club.

#### **DR. BERENSON LOCATES**

Dr. Les Berenson, who specializes in Internal Medicine and Family Practice, has joined Drs. Tom Jefferson, Christina Jefferson and John Smith at Ozark Specialties Clinic.

#### **DR. SHRADER RACES**

Dr. Floyd Shrader of West Memphis participated in the Pro-Rally of the Mayfest Sports Car Club of America held recently in Crittenden County.

#### **DR. BARNETT SPEAKS**

Dr. Michael Barnett of Heber Springs spoke to the Cleburne County Chapter of the American Association of Retired Persons on the dilemmas facing older patients and the medical profession.

#### **DR. RUGGLES APPOINTED**

Dr. Dwayne Ruggles of North Little Rock has been appointed to the Board of Trustees of the North Little Rock Pension and Relief Fund.

#### **STAFF OFFICERS ELECTED**

Dr. A. E. Thorne of Camden is the new secretary of the medical staff at Ouachita County Hospital; Dr. R. F. Plant, Camden, is parliamentarian and chief of Surgery; Dr. Cal R. Sanders of Camden is chief of Obstetrics; and Dr. L. V. Ozment, Camden, is a staff member at large.



## **NEW MEMBERS**

#### **DR. JOSEPH W. MIZELLE**

Dr. Mizelle, a native of Little Rock, is a new member of the Benton County Medical Society.

Dr. Mizelle was graduated from Hendrix College in Conway in 1961. He is a 1974 graduate of the University of Arkansas College of Medicine. His residency training was at the University. In 1977, Dr. Mizelle was Chief Psychiatric Resident.

Dr. Mizelle practiced in Mena and Little Rock prior to moving to Rogers.

He practices Psychiatry at 1406 West Walnut in Rogers.

#### **DR. MARTHA A. FLOWERS**

Dr. Flowers has joined the Jefferson County Medical Society. She was born in Pine Bluff.

She is a 1968 graduate of Howard University in Washington, D. C., and a 1974 graduate of Meharry Medical College in Nashville. Her internship was with Martin Luther King County Hospital in Los Angeles.

Dr. Flowers practiced two and one-half years in Marianna and has been in Pine Bluff five and one-half years.

Dr. Flowers practices General Medicine at 119 East 4th in Pine Bluff.

#### **DR. ROBERT S. GASTON**

Dr. Gaston, another new member of Jefferson County, was born in Harrison.

He was graduated from the University of Arkansas at Fayetteville in 1975 and from the St. Louis University School of Medicine in Missouri in 1979. His internship and residency were with the University Hospital in Little Rock. Dr. Gaston began practicing in Pine Bluff in 1982. He is an Assistant Clinical Professor with the Area Health Education Center in Pine Bluff.



## NEW MEMBERS

Dr. Gaston is a diplomate of the American Board of Internal Medicine. He practices Internal Medicine at 1801 West 40th, Suite 1C, in Pine Bluff.

### **DR. GORDON W. McCRAW**

Dr. McCraw was born in Abilene, Texas. He is a new member of the Sebastian County Medical Society.

Dr. McCraw is a 1975 graduate of Oklahoma State University and a 1979 graduate of the University of Oklahoma College of Medicine. He completed a Family Practice Residency with AHEC in Fort Smith.

Dr. McCraw specializes in Family Practice. He has joined the Booneville Medical Clinic at 114 West 4th.

### **DR. W. R. McKIEVER**

Dr. McKiever, a native of Monticello, is a new member of the Sevier County Medical Society.

He was graduated from the University of Arkansas at Monticello in 1976 and from the University of Arkansas College of Medicine in 1981. His internship and training in Obstetrics and Gynecology were with the Pensacola Education Program in Florida.

Dr. McKiever has practiced in Monticello, Pensacola, and Ocean Springs, Mississippi.

Dr. McKiever specializes in Emergency Medicine and is associated with DeQueen General Hospital.

### **DR. R. DALE CLEMENS**

Dr. Clemens, a new member of the Washington County Medical Society, was born in Siloam Springs.

He is a 1968 graduate of the Oklahoma State University. From 1968 to 1971, Dr. Clemens served as a Naval Flight Officer. In 1978, Dr. Clemens was graduated from the University of Arkansas College of Medicine. He completed a Family Practice Residency at the Northwest AHEC in Fayetteville.

Dr. Clemens is a board certified Family Physician. He practiced for a year in Siloam Springs.

Dr. Clemens practices Family Medicine at 304 South Maxwell in Siloam Springs.

### **DR. L. H. GARBUTT**

Another new member of the Washington County Medical Society is Dr. Garbutt. He is a 1959 graduate of the Colegio Antillano in Santa Clara, Cuba. In 1972 he received his medical degree

from the Universidad Autonoma de Guadalajara, Mexico. After a flexible surgery internship with Shady Side Hospital in Pittsburg, Pennsylvania, Dr. Garbutt received residency training in Orthopaedics in Norfolk, Virginia, and the Long Island Jewish Hospital in New York.

Dr. Garbutt specializes in Orthopaedics. His office is located at 706 Quandt Avenue in Springdale.

### **DR. W. M. GIBBS, III**

Dr. Gibbs is a new member of White County Medical Society. He was born in Forrest City.

Dr. Gibbs is a 1973 graduate of Hendrix College in Conway and a 1977 graduate of the University of Arkansas College of Medicine. His General Surgery internship and residency were with the University. He is a member of the candidate group of the American College of Surgeons.

Dr. Gibbs specializes in General Surgery. His office is at 2900 Hawkins Drive in Searcy.

### **DR. SCOTT I. MORGAN**

Dr. Morgan is a new member of the Pope County Medical Society. He was born in Orleans Parish, Louisiana.

Dr. Morgan received Bachelor of Science and Bachelor of Arts degrees in 1972 from Tulane University of New Orleans. He also attended Northeast Louisiana University of Monroe. He was graduated from the Louisiana State University School of Medicine in New Orleans in 1979. Dr. Morgan served his internship and residency at the Alton Ochsner Medical Foundation Hospital. He held a fellowship in Hematology and Oncology at the same institution from July 1982 to January 1983.

Dr. Morgan practices Internal Medicine with the Millard-Henry Clinic in Danville. His mailing address is Post Office Box 447, Danville.

## **RESIDENT MEMBERS**

The Jefferson County Medical Society has added seven resident members to its roster.

### **DR. H. M. ATTWOOD**

Dr. Attwood, a native of Rison, attended Henderson State University in Arkadelphia. He received a Bachelor of Science degree in Pharmacy from the University of Arkansas College of Pharmacy in 1975. He is a 1981 graduate of the University of Arkansas College of Medicine.

Dr. Attwood is a second-year Family Practice resident with AHEC in Pine Bluff.

**DR. PAUL DAVIS**

Dr. Davis was born in Malvern. He is a 1976 graduate of Ouachita Baptist University and a 1982 graduate of the University of Arkansas College of Medicine. Dr. Davis is a first-year Family Practice resident at AHEC in Pine Bluff.

**DR. MARK A. FLOYD**

Dr. Floyd, a native of Nashville, is a 1976 graduate of Henderson State University in Arkadelphia. He was graduated from the University of Arkansas College of Medicine in 1982. He is a Family Practice Resident at AHEC in Pine Bluff.

**DR. WILLIAM H. FREEMAN**

Dr. Freeman was born in Jonesboro. He is a 1975 graduate of Hendrix College in Conway and a 1981 graduate of the University of Arkansas College of Medicine.

Dr. Freeman is a second-year Family Practice resident at the Pine Bluff AHEC.

**DR. RICHARD L. TAYLOR**

Dr. Taylor, a native of Clarksville, is a 1977 graduate of Arkansas Tech University in Russellville and a 1982 graduate of the University of Arkansas College of Medicine. He is a first-year Family Practice resident with AHEC in Pine Bluff.

**DR. SIMMIE ARMSTRONG, JR.**

Dr. Armstrong, a second-year Family Practice resident at AHEC in Pine Bluff, was born in Parkdale. He was graduated from the University of Arkansas at Monticello in 1977 and from the University of Arkansas College of Medicine in 1981.

**DR. PHILLIP H. BELL, II**

Dr. Bell, a native of Houston, Texas, was graduated from the University of Houston in 1978. He was graduated from the University of Texas Medical School at Houston in 1982. He is a Family Practice resident with AHEC in Pine Bluff.



**RESOLUTIONS**



**DR. VIDA H. GORDON**

WHEREAS, Dr. Vida H. Gordon has had a distinguished career as a pediatrician, allergist, teacher, and researcher in the field of allergy and immunology and

WHEREAS, Dr. Gordon has distinguished herself by becoming nationally recognized in the field of allergy and immunology and

WHEREAS, Dr. Gordon was the first allergist in Arkansas to achieve board certification and

WHEREAS, Dr. Gordon established and directed the first approved training program for allergy and immunology in Arkansas and

WHEREAS, Dr. Gordon initiated the organi-

zation of the statewide allergy society, The Alan Cazort Allergy Society of Arkansas, and served as its first president,

BE IT THEREFORE RESOLVED, that the program of the annual meeting of The Alan Cazort Allergy Society of Arkansas continue to be presented by a distinguished person in the field of allergy and immunology and that this program continue to be a cooperative effort with a presentation to the staff, house staff, and students of the Department of Pediatrics at the University of Arkansas for Medical Sciences/Arkansas Children's Hospital and that these presentations together be designated: THE VIDA H. GORDON LECTURES IN ALLERGY AND IMMUNOLOGY.

Respectfully submitted,

Kelsy J. Caplinger, M.D.

For all members of

The Alan Cazort Allergy Society of Arkansas





THINGS



TO  
COME

The *Southern Medical Association* has announced the following schedule for continuing education programs:

*Medical Malpractice Seminar.* August 26-28, The Homestead, Hot Springs, Virginia. October 13-14, The Hyatt Regency, Crystal City, Arlington, Virginia. Registration fee \$220 for SMA members; \$275 for nonmembers.

*77th Annual Scientific Assembly.* November 6-9. Hyatt Regency, Baltimore, Maryland. No fee for registration; Postgraduate courses \$15 for SMA members; \$22.50 for nonmembers.

For further information about any of these programs, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; phone 205-323-4400.

**April 12-15, 1984**

*Arkansas Medical Society 108th Annual Session.* Excelsior Hotel and Statehouse Convention Center, Little Rock.



**ANSWER—Electrocardiogram of the Month**

DISCUSSION: This is a difficult electrocardiogram. It shows a rapid, irregular orrhythmio, which at times exceeds 300/minute in ventricular rate. The QRS duration in the mast ropid segments of the strip is 0.12 seconds. P-waves are difficult to identify with any degree of certitude, but the best condidates for P-waves are seen in twa beats only in AVF. One nates same wide QRS beats which may well be of ventricular arigin, and other broad beats, which may be aberrantly conducted supraventricular beats. This rate would be uncommonly seen with ventricular tachycardia. The AV node is generally nat able ta conduct this rapidly, so one must consider the passibility of an accessory tract. In essence then, this troce shows, far the mast part, atrial fibrillation with a very rapid ventricular response. If one assumes the presence of on accessory tract, digaxin may, in theary, speed canduction, potentially making matters warse. Drugs, such as pro-coinomide, may, on the ather hand, slow canduction in accessory pathways. The feature editor wishes ta acknowl-edge the assistance of Dr. Lean Roby Blue af Searcy, Arkansas, in the preparation of this month's ECG.



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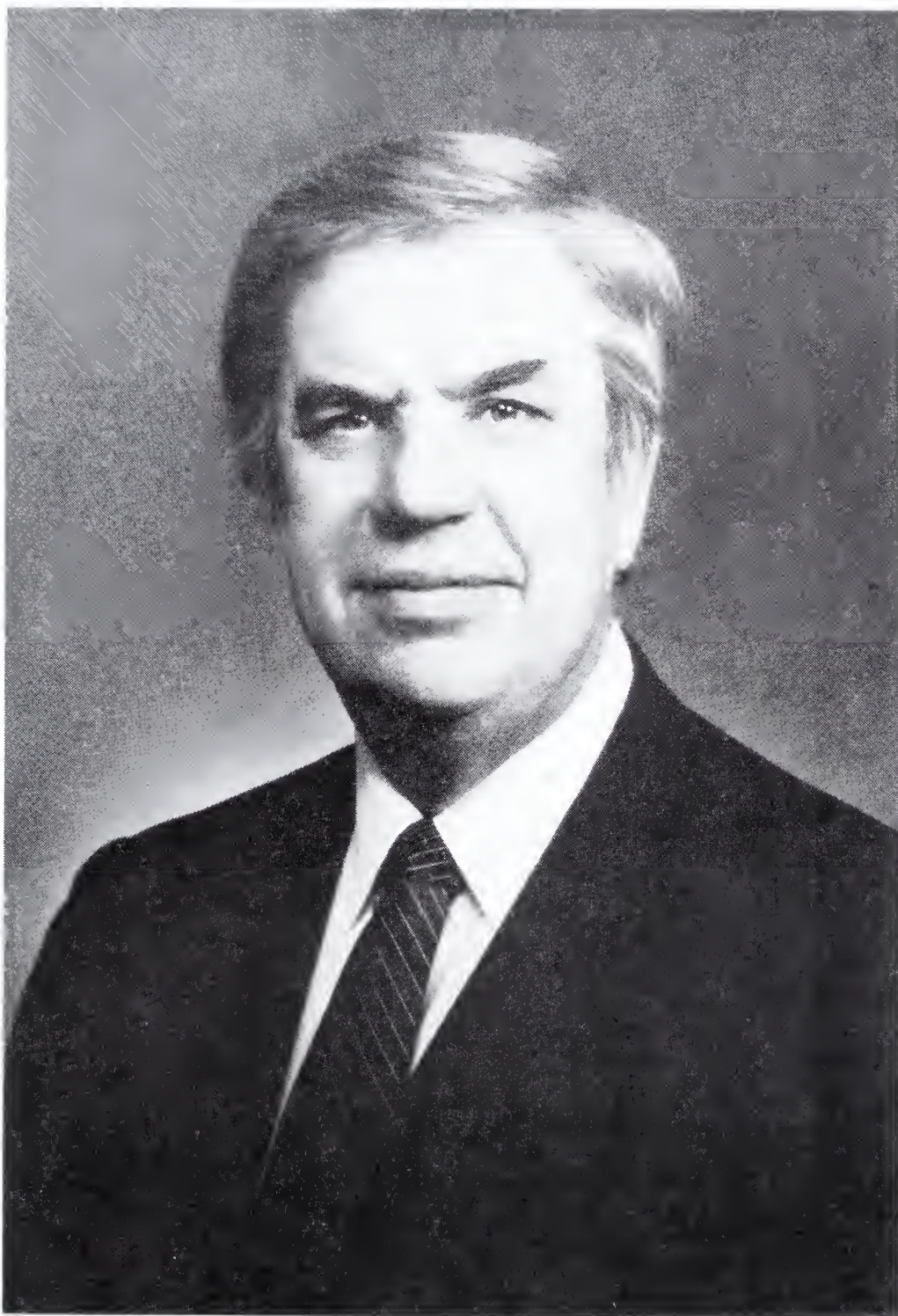
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PROCEEDINGS

*107th Annual Session*

ARKANSAS MEDICAL SOCIETY

Fayetteville

May 5-8, 1983

**First Session**

**HOUSE OF DELEGATES**

The first meeting of the House of Delegates of the Arkansas Medical Society during the 1983 convention was called to order at 1:30 p.m. by Speaker Amail Chudy. Invocation was by Frank Morgan of North Little Rock.

Members of the House present for the first meeting were: ARKANSAS, G. L. Guyer; BAXTER, John F. Guenther; BENTON, Michael R. Platt and G. Bruce Waldon; BOONE, Jean Gladden; BRADLEY, W. C. Whaley; CHICOT; Danny T. Berry; CLARK, N. R. Ritter; CLIBURNE, Max Baldridge; CRAIGHEAD-POINSETT, Don Vollman, Robert Lawrence and James Robinette; CRAWFORD, Henry N. Edwards; CRITTENDEN, C. Herbert Taylor; FRANKLIN, David L. Gibbons; GARLAND, James L. Gardner and William R. Mashburn; GREENE-CLAY, J. Darrell Bonner; HEMPSTEAD, Jim McKenzie; HOT SPRING, N. B. Kersh; JACKSON, Ramon E. Lopez; JEFFERSON, John Crenshaw; JOHNSON, Boyce W. West; LAWRENCE, Ralph F. Joseph; LEE, Dwight W. Gray; LOGAN, W. R. Daniel; MISSISSIPPI, Sybil R. Hart; MONROE, N. C. David, Jr.; NEVADA, Michael C. Young; OUACHITA, J. R. Kendall; PHILLIPS, Robert Miller; POLK, David D. Fried; POPE, James G. Burgess and Frank M. Lawrence; PULASKI, James Cornett, Robert F. Shannon, Gordon P. Oates, Warren M. Douglas, William J. Morton, Warren C. Boop, Charles H. Rodgers, J. Mayne Parker, Gregory A. Dwyer, Douglas E. Young, Thomas A. Bruce, George K. Mitchell, Paul J. Cornell and Orval E. Riggs; SALINE, Frank Thibault; SEBASTIAN,

Carl L. Williams, Morton C. Wilson, McDonald Poe, Jr., A. C. Bradford, A. Samuel Koenig, and David Busby; TRI-COUNTY, Michael N. Moody; UNION, Willis M. Stevens and Robert R. Sykes; VAN BUREN, John A. Hall; WASHINGTON, Wade W. Burnside, Lee B. Parker, Jr., F. E. McEvoy and J. E. McDonald; WHITE, S. Clark Fincher; YELL, James L. Maupin; COUNCILORS, Merrill J. Osborne, J. Larry Lawson, Jim E. Lytle, John E. Bell, John Hestir, L. J. Pat Bell, Lloyd G. Langston, John P. Burge, George Warren, Cal R. Sanders, F. E. Joyce, James D. Armstrong, E. K. Clardy, Ronald J. Bracken, W. Ray Jouett, Frank E. Morgan, Charles F. Wilkins and Ken Lilly; PRESIDENT, Morris M. Henry; PRESIDENT-ELECT, Asa A. Crow; FIRST VICE PRESIDENT, Paul A. Wallick; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER OF THE HOUSE, W. P. Phillips; SECRETARY, Elvin Shuffield; TREASURER, James M. Kolb, Jr.; PAST PRESIDENTS, Joe Verser, C. R. Ellis, Ross Fowler, Stanley Applegate, Ben N. Saltzman, T. E. Townsend, A. S. Koenig, Jr., A. E. Andrews, Kemal Kntait, and Purcell Smith, Jr.

Vice Speaker W. P. Phillips introduced Mrs. C. Herbert Taylor of West Memphis, president of the Arkansas Medical Society Auxiliary. Mrs. Taylor addressed the House as follows:

*"I bring you greetings from your Auxiliary and an invitation to come by our hospitality room to see our displays and visit with us for a while. I want to express my thanks to you—this is the last time I will face you as the president of the Arkansas Medical Society Auxiliary. The Society and staff have been very supportive and helpful this*



Speaker Amail Chudy opens the first session of the House of Delegates.



James S. Todd of New Jersey, representing the American Medical Association, addresses the House.

year. Dr. Henry has helped create better communications between the Society and the Auxiliary. He and Mr. LaMastus came to our Auxiliary Board meeting to give us an update on legislation. The Auxilians have been very enthusiastic about receiving the Society's legislative alert newsletters. I know that we wrote letters and made telephone calls. Some Auxilians visited the Legislature. Dr. Lawson and Dr. Crow also brought us greetings and information regarding Ark-PAC. I was just a little surprised how few Auxilians are familiar with the PAC activities.

"This year the Council endorsed Auxiliary participation on Society committees. From now on, we will have an ex-officio member on the Legislation, Convention, and Public Relations Committees. Attending the Public Relations Committee meeting with Dr. Milton Deneke from my hometown was one of the highlights of my year. The creative ideas expressed by the committee members will surely counteract the negative image of the physician and his family created by the press. Many thanks to those of you who sat with me at Council meetings and made me feel a part of the Session.

"Also, my appreciation is expressed to the county societies who let me visit with them as I visited the Auxiliary. Special thanks to those of you who hosted me as I traveled the State. I know that a strange overnight guest is not always the best way to end a hard day at the office, but you were always gracious and fun to be with.

"You should be proud of your Auxiliary. With enthusiasm, we are working with the University of Central Arkansas, the Health Department and Blue Cross-Blue Shield to encourage health education, using the Berkeley plan, in all schools across the State. We work hard for child safety restraints and tougher drunk driving laws. This will be a National Auxiliary focus this year, along with child abuse prevention. Two new auxiliaries formed this year—Randolph and Baxter Counties. But, we lost two when no dues were paid in Arkansas and Boone counties. I urge you to support your spouses in your Auxiliary effort. Working together, we can make Arkansas a healthier place to live and an enjoyable place to practice medicine. I have enjoyed being with you this year and will continue to work in your behalf."

Vice Speaker Phillips then introduced Mrs.





Vice Speaker W. P. Phillips of Fort Smith at one of his last sessions as one of the presiding officers of the House. Dr. Phillips was elected to the position of councilor during the meeting.

Paul Cornell of Little Rock, the president-elect of the Arkansas Medical Society Auxiliary. Mrs. Cornell addressed the House as follows:

*"Mr. Speaker, Members of the House of Delegates, and Guests. Thank you for the warm welcome. I intend to break tradition and hurry over a report of my year of learning and travel as president-elect and membership chairman. I will tell you, though, that I have traveled a lot, I learned a lot, I made new friends and we did increase our membership by over eight percent. We do have two new organized counties—Baxter and Randolph.*

*"I am anxious to share with you my enthusiasm for the coming year. There is an Arkansas Medical Society Auxiliary because of you, the Arkansas Medical Society. The Auxiliary is made up of physicians' spouses who care about you and your profession. Although we spouses know you best as bed partners and friends, and only sometimes as physicians, we do know the long hours you put in caring for the health of the people of Arkansas. In our close contact with you, your caring rubs off on us. We do care about the health of the people of Arkansas. The Auxiliary theme for the coming year is 'Let's Get Organized,' and I think*

*we are off to a good start. We have a fantastic Board full of truly capable and enthusiastic spouses from all over the State. I might add that we will have our first male spouse Board member. He will be encouraging male spouses to participate in the Auxiliary all over the State. I think it will be a great year, full of new goals to accomplish. Next year our health projects chairman will continue to furnish the counties with information and materials concerning general health projects. The push from the AMA Auxiliary will be 'The Health of our Youth.' In view of that, and our own State needs, I have appointed three additional chairmen under health projects. These chairmen will be specialists in their particular projects—they will have package programs available and will travel to and conduct workshops in any county desiring to initiate any or all of these projects, namely Scoliosis screening, Beltman (our car safety seat restraint program) and last, but not least, teenage pregnancy and venereal disease. I think that you will agree all of these new projects are worthy and are needed by our State. We spouses in the Auxiliary hope that you will be as proud of us as we are of you in the Society and together we can show the people of Arkansas that*





President Morris M. Henry makes his "President's Address" to the House of Delegates on Thursday, May 5, 1983.

*physicians and their families care about and work for their good health."*

Speaker Chudy introduced Dr. James S. Todd of Ridgewood, New Jersey, a member of the Board of Trustees of the American Medical Association. Dr. Todd addressed the House as follows:

#### **ADDRESS BY DR. TODD**

Thank you, Mr. Speaker. It is a real pleasure for me to be able to be here and represent the American Medical Association at your meeting. It is also a particular pleasure, having been born and brought up on Cape Cod where I was told as a kid Arkansas would never amount to anything because it was too far away. But I am here and it is a pleasure to be here.

I was reading your bulletin as I was coming in and it tells me that Arkansas and its doctors are in good hands. Its leadership is superb and I am impressed by your activities dealing with the regulatory agencies and the State Government. You know, there is an old Chinese curse that says "may you live in interesting times." We sure do. We live in times where scientists study less what our origins are and more what our finish is going to be. We live in times when the childhood begins

with youngsters asking where they came from and ending up refusing to tell anyone where they are going. In times when Government intervention makes it possible for us to have diseases that we couldn't otherwise afford. I guess if humor is a measure of how a group is doing, the medical profession is probably in trouble. Henny Youngman talks about the friendly old surgeon who would touch up the x-rays for you if you couldn't afford the surgery. Now Rodger Dangerfield complains that when he told his psychiatrist he was suicidal, the only thing that happened was he had to pay in advance. You certainly know the old story about second opinions, which are of the vogue today. Liddy was having trouble with her lifestyle and went to her psychiatrist for an evaluation. The psychiatrist finished and said, "Madam, I don't wonder you have troubles in life; you have, without a doubt, the worst personality I have ever seen." She was taken a little bit aback by this and said, "Doctor, I think I'd like a second opinion." He said, "Good, you are ugly, too."

Probably the only thing with which we can all agree in this room this afternoon is that we do, indeed, live in a time of ever-increasing change.





The House of Delegates in session on Sunday, May 8, 1983.

Certainly, this is true scientifically; perhaps more so than in other areas. And now it becomes increasingly necessary that we deal with the consequences of that change—professionally, socially, and economically. If there is any tragedy in our health care system, it may well be that perhaps we have been too successful too fast. Life expectancy has increased by ten percent over the past fifteen years. Death from heart disease has declined by one-third. Some infectious diseases have been totally eliminated. In a report, it was stated that there have been no reported cases of measles in the State of Arkansas for the year 1982—a real accomplishment. Seventy-eight percent of our citizens see a physician at least once every year. Technology exploding beyond belief allowing us to do things that we never heard of when we were in medical school and residency. The bottom line of all of this has been the production of a health care system that is without peer in the world. It is a record of which we may be justly proud but it is also a record that is producing problems for society. Health care can expand infinitely; it can absorb every dollar that society is willing to make available to it. And yet it is quite clear that our

resources are becoming increasingly limited. Society is questioning how much of the resources will be devoted to medicine, how much to welfare, and how much to education. Increasingly we, as a profession, must address that issue, along with society. Because society will not stand still for us, nor will it allow any segment of that society to stand still either. It becomes a harsh reality that we cannot, as a profession, any longer function independently of society. We have to be aware of what is going on. We must participate in society's activity and assure ourselves a continuing valuable role as we try to protect the society and the patients we serve, but at the same time be sure that we are acting in the public interest. To me it's hell being in a service profession because our work is commissioned by others. We don't sell a product; we sell a service. For that service to be acceptable, it must be honest, it must be relevant and it must be of high quality. But all at the same time, it must be tempered by reality that with increasingly scarce resources we cannot do everything scientifically possible for everybody, everywhere, all the time. We must decide, or somebody must decide, what we are going to do, for whom.

and where, and when and begin to develop the priorities and rationally allocate our decreasing resources. It's happening. Massachusetts General Hospital not too long ago made a very conscious decision not to embark upon transplantations of hearts because it was not in their view cost effective or in the best interest of the society in their area when there were so many other problems to be met. All of these considerations become a tremendous burden for the individual practitioner. No longer is it satisfactory to just do a good job in practicing medicine. Collectively, we as a profession have a responsibility to society. With all of these pressures upon us we need some vehicle by which to make it all work and, of course, I'm speaking of organized medicine. I'm proud to represent the American Medical Association: an organization whose sole purpose is to educate, help and protect you and the people you serve.

I'm here to tell you the AMA is alive and well and growing with membership levels in all categories. We've gone from, in 1975, borrowing a million dollars a month just to meet the payroll to, currently, assets of eighty-nine million dollars. Fifty-two percent of our income comes from non-dues related activities, which means we are looking at what the cost of organized medicine means to you. The AMA sponsors ambitious programs all the way from education to policy development. It is the largest publisher of medical information in the world. Thirty-five million pieces of information come out of the American Medical Association every year. JAMA is now in several foreign countries all over the world, including the Republic of China. Beginning next month, it will be published in Italian as well. We have developed an increasingly potent voice in Washington and Arkansas has helped us to develop that by sending representatives to Washington, to speak with your representatives, to meet with our lobbyists and tell us what is going on. Indeed, increasingly when the Government wants Socio-Economic information on what is happening in the health-care field, they are coming to the American Medical Association. So like it or not, everything you do in your professional life is influenced by the American Medical Association.

I'd like to briefly touch on about four areas of concern that we have and to tell you what organized medicine is doing to you and what organized medicine is doing for you. I say "to you" because we hope it is challenging you to lead and

guide your profession during these difficult times. And I say "for you" because the AMA speaks for you and professionalism in the broadest sense.

The first that I'd like to talk about is manpower. Everywhere I go, I hear concern about the number of physicians that we are producing in this country. What are we going to do with sixteen thousand new physicians coming out of our medical schools every year? How do we handle the inevitable conflict between physicians and other physicians in over-crowded areas, between physicians and hospital staffs, between physicians and limited-licensed practitioners. It is a difficult problem because in a democracy we do not have the right to establish quotas or to limit the ability of those licensed by society to earn a living or to provide their service. I think we all believe in the free market place system and that given time, the market place will compensate. That doesn't mean that we should stand idly by, waiting for some day when things straighten out.

We have developed programs to help physicians find areas in this country where they can practice their profession and be needed. You in Arkansas are to be complimented on your program of attracting new physicians and retaining them here in under-served areas.

We have developed a new medical staff section within the House of Delegates of the AMA that will allow physicians to come together and discuss the problems of relationships between hospitals and satellite clinics in relationship between themselves on the medical staff.

We continue to seek a restraint on the excesses of the Federal Trade Commission as it tries to prevent us from maintaining what we believe to be important standards. As a consequence of the legislative battle which didn't come out exactly to our liking, we have now had negotiations with the Federal Trade Commission and the Justice Department. We now believe that we have worked out an agreement whereby the profession will indeed be able to maintain its standards and to continue the fee reviews and other peer review activities which we feel are so important.

As corollary of manpower, I need to speak to you about the Joint Commission on Accreditation of Hospitals. As you know, the standards for accrediting hospitals are being rewritten. This was at the response and request of the 1980 House of Delegates of the American Medical Association where they felt that the standards should be re-





Razorback Football Coach Lou Holtz demonstrated his skill as an entertaining speaker and as a magician.



One of the Razorback fans at the Hogwild Party. Amail Chudy's T-shirt reads "And on the eighth day God created Razorbacks."



Dr. and Mrs. Gordon Oates are big Razorback fans; she is a former University of Arkansas cheerleader.



written and become less prescriptive, more uniform in the ability to survey, recognize the reality that limited licensed practitioners do indeed have the right to practice in hospitals and most importantly to provide more local autonomy so the individual hospital can decide for itself what privileges it needs to give those practitioners on its staff. We're coming down to the final language now that we believe will recognize what has happened in our society and our health-care field but at the same time will preserve the quality of care that is given in the hospitals by allowing individual hospitals to do their own credentialing. It is not an easy task to rewrite these standards. As I'm sure some of you are aware, there has been great unhappiness with the language. But it is a very necessary task and one requiring us to recognize that we are not alone in the health-care field and we must allow those that society has chosen to license to practice along with us.

Certainly, we need to talk about the financing of health care. I think it has been finally concluded that this country cannot afford National Health Insurance. Indeed, it is just the reverse. Everyone now seems to be trying to find a way to do more than less. President Reagan is no exception in this and in this area, don't consider President Reagan as being much better than Mr. Carter and I doubt that Mr. Reagan's successor will be any better than he is. The Administration, the Federal Government, absolutely has to cut costs if they are to continue to support the programs in the public sector having to do with health. Mr. Reagan is dedicated to this, he is committed to it, and he has told us he will do it however it has to be done. He would prefer to do it at the private sector but, make no mistake about, if it doesn't happen, it will be done by regulation.

Of course, the new buzz word is "pro-competition", or what we think a better term would be "consumer choice." The idea is to moderate health care demand by increasing the financial involvement by consumers by increasing the number of options available in terms of types of care into increased competition among forms of delivery; that is, HMO's, PPO's, IPA's whatever. But in its most naked form, this whole pro-competition bit is a manipulation of tax incentives and reimbursement procedures primarily to reduce costs. We have to be on constant guard

against the perversions of this regulation solely to foster competition and not lose sight of our ultimate goals and that is to maintain the quality and accessibility of care that we need to provide.

We talked about financing of health care; I also need to talk about prospective reimbursement, DRG's, call it what you want. We have lived in New Jersey under DRG's for the last three years and I don't have a bottom line to tell you whether it has been cost effective, whether it has had any effect on quality or not. But I can tell you this, the Federal government is implementing DRG's and prospective reimbursement on a national level without even knowing what the results are going to be. Indeed, the bill has mandated that by 1985, the Congress must decide whether or not it will pay physicians on a prospective reimbursement. What prospective reimbursement means is that when a patient goes into the hospital, that patient will be paid by diagnosis, not by length of stay and not by per diem. And I submit to you that prospective reimbursement in whatever form has grave potentials for the quality of care and will need to be watched very closely. Bear in mind that financial incentives are really benign in application or effect. The profession needs to deal with our cost program internally as much as we do externally. There is fat in the system; there are excesses on the part of the hospitals and physicians and we need to recognize this and we need to deal with it and have our own house in order when we begin to complain about the regulations. The AMA has embarked on an extensive program to develop cost effective care—notice I said not "cost containment" but "cost effective care"—so that the patient who needs care will not be denied it but will get no more, no less than needed.

Finally, we need to talk a little bit about the economy in general because it certainly has a great influence on what we do both in our personal and professional lives. It doesn't take much of an expert to know that the Reagan Administration in Washington wants to do some fearful and wonderful things. It is going to cause trouble for all segments of our society. Particularly, when he only has about one-third of the Federal budget to play around with. Entitlement programs are sacred, defense is pretty sacred and that represents two-thirds of the budget. We fall in the other third of the budget and you know where we're going to have trouble. This is going to require



## CANDID SHOTS FROM THE HOGWILD PARTY



a great deal of increased activity on the part of all physicians, particularly at the state level because that is where the Feds want to send the action back. You have to be disturbed when you pick up the *Arkansas Gazette* and see a headline that reads, "Hospital Costs Increase 45% of the Medicaid Program." I don't believe that is true. I think there's some figuring that needs to be done but we also have a lot of work to make sure that that isn't true. Or if it is true, that it is legitimate. We are going to have to become far more active in our states than we have ever been before. You are certainly fortunate here in the State of Arkansas to have the president of your Society sit in the State Senate. Every medical society in this country ought to have physicians in their State Legislatures. So far, all of the responses to the problems of financing our health care programs has been piecemeal tinkering with the system—rob Peter to pay Paul, cut a little there, add a little there—and none of this activity has really solved any problems. Remember, the government doesn't solve problems, it only subsidizes them. What it can't subsidize enough, it will strangle by regulation.

The result is heightened tensions forcing more purely political decisions, really not benefiting anyone in the long run. It seems to me, and it seems to our organization, what is needed is a clearly enunciated health care policy upon which to base decisions by which to establish priorities. Surely this is an ambitious project but one that the AMA has accepted. The American Medical Association has brought together representatives from health, business, industries, labor, education, the government and the public. All sitting down together to address the issues of the advancement of medical science, education, health manpower, delivery mechanism, the evaluation and control or quality and the payment mechanism. All of these are being studied in the hope of developing principles from which future decisions may be more rationally chartered; an exciting project and certainly one long overdue. But what does all this mean to you, the practicing physicians of Arkansas? Think about it. How many of you, the acknowledged leaders of your profession here, are really up to speed on all of these issues? What is it worth to you to have an organization that is out



## Medical Family Photos from the Convention



Dr. and Mrs. Morriss Henry and son Mark.



Dr. and Mrs. Asa Crow, daughter Susan and son Greg.



Dr. and Mrs. Charles Wilkins.



Dr. and Mrs. Crow.





Past Presidents in attendance at luncheon in their honor were Ross Fowler, Payton Kolb, T. E. Townsend, Kemal Kutait, Stanley Applegate, A. S. Koenig, Joe Veiser, Purcell Smith, H. W. Thomas and C. R. Ellis.

in front on these issues, that is out in front representing you, that is out in front to a scientific evaluation and education. Very simply. It is worth your livelihood; it is worth your profession; it is worth your ethics. You and your patients are the immediate purpose of everything that is on the agenda of the American Medical Association. The AMA ought to be fairly high on your agenda as well. I believe in American medicine but I don't think we have all the answers by ourselves. I believe in organized medicine, but I'm not convinced that our full potential has been reached. But most strongly of all, I believe that each one of us has a clear responsibility to participate to the fullest in our profession, in our community—they are one and the same.

Spring is a wonderful time of the year and it is a beautiful day out there today. Spring is the time of the year to plant the dreams of the winter. What we do now is going to determine what the harvest of the fall will be. We can choose good seed or we can choose bad seed but one thing is certain—as we sow, so shall we reap.

I appreciate the opportunity to be with you. Thank you.

Speaker Chudy expressed appreciation to Dr. Todd for coming to Arkansas and bringing information on the American Medical Association.

Speaker Chudy introduced President Morris Henry and asked the House to applaud the man who headed the Medical Society during the past year and did such an excellent job. The House responded with a standing ovation. Dr. Henry addressed the House of Delegates as follows:

#### **PRESIDENT'S ADDRESS MORRIS M. HENRY**

First, I want to join other local physicians to welcome you to Fayetteville. We realize it is a long way for you to come, and hope you will find your visit very pleasant and return again soon. Enjoy our new downtown and walk around a bit, and go see the progress we have made on the University campus if you can, especially if you went to school there.

I want to thank the Arkansas Medical Society for the opportunity to serve for a number of years as Councilor, and for the opportunity of serving this year as President.

As President, I had the help and support of the excellent staff, headed by Dr. Cliff Long, and





Stanley Applegate receives plaque from the State Medical Board in appreciation for his years of service.

including the extremely capable and experienced Leah Richmond and Ken LaMastus, and their office staff.

Any Medical Society President can expect to have a very active year, but this one has turned out to be especially busy for me.

My parents, who practiced ophthalmology in Fort Smith for years, retired to Fayetteville and helped me with my practice until recent retirement. But without them this year, I have had to depend on the help of a wonderful group of local colleagues to take my patients in times of emergency and to cover emergency room call when I have been gone. I could not have served as President and run a Senate election campaign—my first in ten years—and served during the legislative session without their steady and competent support.

I attended the AMA Convention in Chicago. The last time I went to an AMA Convention, Dr. Jim Kolb, Sr., showed me around. At that time, the scientific and business sessions were held together. Now there's too much of both kinds of activity for them to be together, and the meeting is all business.

I went with our staff to visit the Arkansas Con-

gressional delegation in Washington, where we were very well received by our Senators and Congressmen. In Washington we heard that this is the Year of the Hospital, and next year will be the Year of the Medical Profession. What that means is: efforts to control the cost of health care are going to lead to big changes in the delivery of health care, and they will affect your practice. I, therefore, urge all of you to become and stay particularly active during this time, and to let your views be known. We all need to stay informed about State and National government right now, and to keep in contact with those who represent us there.

I have also met this year with as many county medical societies as I could fit into my schedule, and was accompanied by Ken LaMastus to the meetings.

I want to thank Mrs. Ramona Taylor and the Auxiliary. They have been very helpful to the Medical Society in many different ways. Many of the things which they do are perhaps not known, but their support has been a great deal of help to us. I encourage the Auxiliary to continue with their efforts.

I was glad to have the active participation of





John McCollough Smith views one of the many exhibits on display during the meeting.

Dr. Purcell Smith, immediate past president of the Medical Society, who had become concerned during his tenure about the costs to industry for health care in Arkansas. Dr. Smith developed and held meetings around the State of Arkansas for representatives of business and industry and medicine. Because I had heard already from a Fayetteville business leader that health care was costing area industry a great amount of money, I was glad that Purcell was willing to put his energy into the task of getting practitioners and industry persons together to iron out the problems, or to start to try to, anyway.

Dr. James Todd, a member of the Board of Trustees of the American Medical Association and our distinguished guest, told me last night that 70% of hospital costs are the result of medical decisions by physicians—decisions, for example, to have certain tests made. We all need to give thought to this matter of costs to our patients, and to those who pay their ever-rising insurance premiums:

- Do you order lab tests looking under every stone for every conceivable disease or health problem?

- Do you know what those tests cost?
- How far do we go with medical care for chronic diseases, like renal dialysis? These take a substantial portion of available Medicare funds.
- How long do we continue to use a life-support system??? Has your hospital set up a committee to address issues like Baby Doe???

Questions like these are facing all of us and the paying public. Some form of action *will* be taken, either by government, by insurance companies, or by industries which underwrite the health insurance of their employees. We can work with them and help solve these problems, or we can just stay busy practicing medicine and ignore them and let the others try to solve them. We owe our patients a concern beyond their immediate health complaints. We need to be conscious of costs, and to try to eliminate excessive medical costs through our individual work and through our State and National medical associations. We must give attention to them, now.

That leads me quite readily to the political side of my work this year. Since I have been closely involved in State government for some years, I



## CANDID SHOTS DURING THE CONVENTION



want to make a few comments about the recent legislative session. You've heard some of them before, but they are important enough to repeat.

I am very proud, for one thing, of our Medical Society staff and the work they have done this year:

—Mike Mitchell, who serves as our attorney, kept busy day and night tending the medical issues that came up. We sometimes stayed on the phone late on Saturday and Sunday nights checking on the bills and coordinating our work.

—Ken LaMastus, our Assistant Executive Vice President, was there at the session night and day with Mike. As the issues developed, one would be discussed in one committee meeting while another was being heard in another committee at the same time. We would meet early in the morning at the Capitol and divide up the committee work, with someone often running back and forth between rooms to stay on top of all the issues. It was hectic, to say the least.

—Dr. James Weber, who chaired our Society Legislative Committee, found out how fast he had to react and get over to the Capitol in a crisis.

And he was there. He also found out how hard legislative activity can be on a doctor's practice, for his many efforts to testify at committees often made him juggle his patient schedule. He also learned that the work is suited for a person who has a strong constitution, and is not overly upset by confrontation, argument, and defeat.

—At times Dr. Elvin Shuffield sat in on our planning sessions and lent his considerable expertise;

—And backing us up in the office were Dr. Cliff Long and Leah Richmond, who gave us excellent support.

Also during the legislative session, we helped our relations with State Government by providing a physician each day to serve as Doctor of the Day. This is a very good practice which I think ought to be continued. It gives physicians from around the State a day's experience at the legislative session, and makes legislators aware of the medical people all over Arkansas. That is one part of a public relations effort that the Arkansas Medical Society has started, and that we *must* continue.

Business people give political support to elected



# Officers of the Arkansas Medical Society for 1983-1984



Seated, left to right, Treasurer James M. Kolb, Jr., Secretary Elvin Shuffield, President-elect Charles Wilkins, Jr., President Asa Crow, Immediate Past President Morris Henry, Chairman of the Council John P. Burge, and Speaker Amail Chudy. Standing, left to right, councilors George Warren, Harold Purdy, F. E. Joyce, Larry Lawson, Rhys Williams, First Vice President Warren Douglas, Councilors M. J. Osborne, Jim Lytle, Frank Morgan, Pat Phillips, Past President A. E. Andrews, Councilor Ken Lilly, Second Vice President Charles Rodgers, Councilors Ray Jouett, John Bell, James Armstrong, Charles Logan, Cal Sanders, Ronald Bracken, and E. K. Clardy.

officials in their campaigns; lawyers certainly give support to candidates for judge; do you support political candidates??? We need good men and women in public office. Take time to help them get elected. If you can, seek office yourself, or support your spouse. If you or your spouse decides to run, talk with me about strategies.

We need to work individually and as a Society for good government at every level. And we need to continue the work of Dr. Milton Deneke's committee for good public relations. This should be your constant concern as a practitioner as well as the concern of your Society, for public relations affect all fields.

Do not think for a minute that your public image will fail to count for good or bad if you should ever be in a malpractice situation. If you and your office staff show a constant concern for your patients, they will remember. If you do not, they will remember. We need more than just well patients; we need patients who know that we care about their whole lives and welfare.

And speaking of your staff, as *competition* becomes a real concern for you—and it is sure to, if it hasn't already—the way your office is run from

day to day will determine whether you succeed or fail.

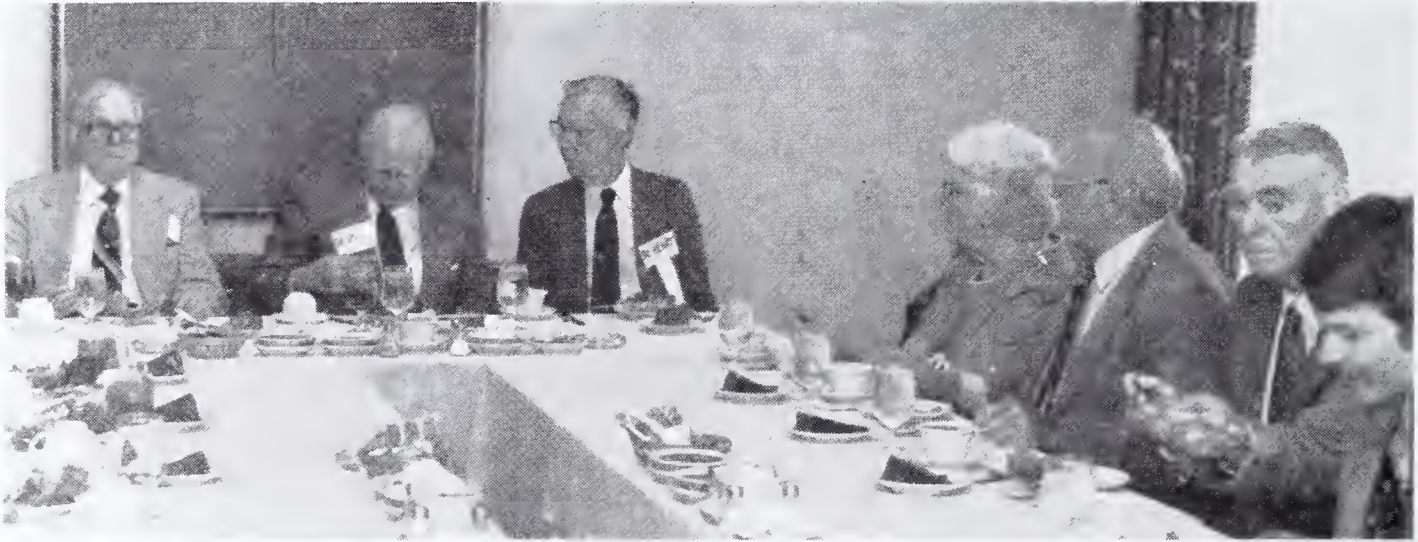
The Arkansas Medical Society has offered several seminars for office staff members. Turnover in medical office staff is a constant problem, and we cannot conduct our practices while providing our own training in every aspect of running a medical office. I hope the Society will continue to provide us the valuable service of office staff basic training.

One question that we should consider as a Society is whether we should hire a public relations firm or employee who understands what the Society needs in public recognition around the State, and what doctors need as support from the Society, and can put together a program to let the public know what is going on to help them in Arkansas medicine. Many of our valuable services receive little publicity.

Do you know, for example, that the Auxiliary has been active in the fight against drunk driving in Arkansas? Judy McDonald has spearheaded a campaign of the Auxiliary in Northwest Arkansas to make people aware of the destruction of lives by drunk drivers.



## Fifty Year Club of the Arkansas Medical Society



Members of the Fifty Year Club present for the luncheon meeting on Friday included Johnnie Porter Price, John McCollough Smith, Charles R. Henry, Ruth Lesh, Vincent Lesh, G. Allen Robinson, Milton C. John, Jr., Ulys Jackson, Ross Maynard, Jim McKenzie, Wallace Dickinson, and Woodbridge Morris.



John McCollough Smith of Little Rock was president of the Fifty Year Club for 1982-83.



Milton C. John, Jr., of Stuttgart is president of the Fifty Year Club for 1983-84 and Johnnie Porter Price of Monticello is secretary.





Past President C. R. Ellis at the Hogwild Party on Friday evening.

Do you know that Dr. Wilbur Lawson and others have quietly been working to organize a program to monitor birth defects and their causes in Northwest Arkansas? And that a similar program is being developed at the Medical School in Little Rock? Over two years ago, the Arkansas Medical Society Council went on record supporting such a program. I guided a necessary bill through the Legislature, but it was then vetoed by Governor Frank White. This year I introduced and passed a similar bill, which will become law in July.

I mention these issues to point out that *many* of you are doing things that contribute to the public good, but few people in the State ever know about them. If they knew, I think they would have more positive attitudes about us as a profession.

I feel that support of a public relations effort overseen by the Society would be money well

spent, if the work is done properly and professionally. Because our staff is so competent and so aware of our professional responsibilities as physicians, I believe they could oversee public relations activity that we could be proud of, and that would let the public know what Arkansas doctors are doing in the public interest. There's a lot to report. Let's get the word out.

In closing, I hope you have a good and rewarding visit to Fayetteville and Northwest Arkansas and return again soon.

Again thank you for allowing me to serve you as President this year. It has been a pleasure.

Thank you.

\* \* \* \*

Vice Speaker Phillips reported that eighty-one delegates had registered for the first meeting of the House and that a quorum was present.

Vice Speaker Phillips recognized President Henry for a presentation. Dr. Henry presented a \$13,119 check from the American Medical Association Education and Research Foundation to Dean Thomas Bruce of the University of Arkansas College of Medicine. Dean Bruce expressed appreciation to the Society and to the Auxiliary for the Auxilians' work on behalf of AMA-ERF.

Joe Verser, secretary of the Arkansas State Medical Board, was recognized by Vice Speaker Phillips. Dr. Verser presented a plaque of appreciation to Stanley Applegate of Springdale for his sixteen years of service on the Medical Board. Dr. Applegate expressed his appreciation for the privilege of working on the Board.

Vice Speaker Phillips called for additions or corrections to the minutes of the 106th meeting of the Arkansas Medical Society held in 1982. Upon motion of Ken Lilly, the minutes were approved as published in the June 1982 issue of the Journal.

Vice Speaker Phillips asked for additions or corrections to the minutes of the November 14, 1982, meeting of the House of Delegates. Upon motion of James Maupin, the minutes were approved as published in the January 1983 issue of the Journal.

Dr. Phillips then recognized Council Chairman John P. Burge for a supplemental report of the Council. Dr. Burge reported on meetings of the Council held after publication of the Report of the Council in the March Journal. (Report follows minutes.) Speaker Chudy referred the supplemental report to Reference Committee Number One.



Speaker Amail Chudy presides as House of Delegates votes on report of Nominating Committee as presented by Frank Morgan.

By motion of Shuffield, the House suspended the rules in order to receive a report of the Committee on Medical Legislation by Chairman James Weber. (Report follows minutes.) Speaker Chudy expressed appreciation to Dr. Weber and Dr. Shuffield for their dedicated work during the past legislative session. The House recognized the society lobbyists for their efforts. The report of the Committee on Medical Legislation was referred to Reference Committee Number Three.

Speaker Chudy recognized A. S. Koenig, chairman of the Constitutional Revisions Committee. Dr. Koenig advised the House that he would present for second reading proposed amendments to the Constitution and Bylaws of the Arkansas Medical Society. The proposed changes were approved on first reading at the 1982 meeting and were published twice in the Journal of the Society since the 1982 meeting.

#### **FINAL CONSIDERATION OF PROPOSED AMENDMENTS**

##### **ARTICLE IV. Constitution.**

##### **Section 3. Delegates**

Delegates shall be those members who are elected *or seated* in accordance with the Constitu-

tion and Bylaws to represent their respective component societies in the House of Delegates of this Society.

##### **ARTICLE V. Constitution. House of Delegates.**

The House of Delegates shall be the legislative body of the Society, and shall consist of (1) delegates elected by the component societies *or seated by the House of Delegates to represent component societies* as provided in these bylaws; (2) the councilors, and (3) ex-officio, the president, first vice president, president-elect, speaker, vice speaker, secretary, treasurer, and past presidents of the Society, provided, however, that the ex-officio members shall have the power of voting on all subjects except the election of officers.

##### **BYLAWS. CHAPTER I. Membership**

##### **(A) Active Membership**

The active membership of this Society shall be comprised of all the active members of its component societies. Only such person is eligible for active membership in a component society as possesses the degree Doctor of Medicine or Doctor of *Osteopathy* and holds an unrestricted license to practice medicine and surgery issued by the (delete: Board of Medical Examiners which con-





President Asa Crow and President-elect Charles F. Wilkins, Jr.

sists of members recommended by this Society) *Arkansas State Medical Board*. The eligibility requirements set forth in the preceding sentences are not to apply, however, (delete: to members in good standing in any component society at the time of the adoption of this section. Adopted, House of Delegates, 1961 Annual Session, nor) to the members of the specialty chartered "Student and Intern and Resident Societies."

Note: Words italicized are additions.

Dr. Koenig moved adoption of the amendments to the Constitution and Bylaws. There was a separate vote on each proposed change. All proposed changes were unanimously adopted.

Speaker Chudy then recognized Dr. Koenig for presentation of proposed amendments for first reading to the House of Delegates.

#### **AMENDMENTS PRESENTED FOR FIRST READING**

Delete CHAPTER V, Section 3, of the Bylaws, which read:

Any person known to have solicited votes for or sought any office within the gift of this Society shall be ineligible for any office for two years.

CHAPTER V, Section 4, now reads:

No member shall be eligible to any office of this Society who is not in attendance at the meeting at which the election is held.

Add to that section:

Exceptions may be made by the House of Delegates if the nominee is unable to be present because of circumstances beyond his control.

(Subsequent sections of Chapter V would be renumbered.)

Dr. Koenig advised the House that there was also a supplemental report of the Constitutional Revisions Committee. In accordance with recommendations in the report of the Long Range Planning Committee and action of the Council of the Society, the Committee recommended the following proposed change in the Bylaws.

#### **NEW PROPOSAL ON AMENDMENT PROVIDING REDUCED DUES**

Chapter 1, Section 3. Add paragraph (c).

New Active members of the Society entering practice in Arkansas shall be exempt from dues from the date of entry into practice until the next regular dues period. The following year, the dues





President Asa Crow addresses House of Delegates on Sunday, May 8, urging members to make contributions to the AMS-State Legislative Fund.

assessment shall be at one-half the total amount. Thereafter, full dues are payable.

The proposals presented for first reading were referred to Reference Committee Number Two.

Speaker Chudy then introduced a resolution from the Pulaski County Medical Society for consideration of the House.

#### **PULASKI COUNTY RESOLUTION ON AUXILIARY PUBLIC SERVICE PROJECTS**

WHEREAS, the Arkansas Medical Society has been impressed with the results of the public service programs currently being conducted by the Auxiliary throughout the State; namely the scoliosis screening program; the teenage pregnancy and venereal disease education program; and the child automobile restraint program (Belt Man); and

WHEREAS, the Auxiliary intends to continue these important public service programs in the future; and

WHEREAS, the Arkansas Medical Society hopes to encourage these highly successful health-related services,

BE IT THEREFORE RESOLVED, that the Arkansas Medical Society offers congratulations

to the Auxiliary for the tireless efforts of its members in the conduct of these activities; and

THAT, the Auxiliary be advised of the approval by the Arkansas Medical Society for continuing its efforts in the conduct of these programs on a Statewide basis.

The resolution was referred to Reference Committee Number Two.

Members of the House held district meetings on the floor to select members of the 1983-84 Nominating Committee. Elected to represent their districts on the committee were:

1. Sybil Hart, Blytheville
2. Ramon Lopez, Newport
3. John Hestir, DeWitt
4. Dan Berry, Lake Village
5. George Warren, Smackover
6. A. E. Andrews, Texarkana
7. William R. Mashburn, Hot Springs
8. Paul Cornell, Little Rock
9. Wade Burnside, Fayetteville
10. W. P. Phillips, Fort Smith

Speaker Chudy announced that members of the Third and Sixth Congressional Districts would meet immediately following recess of the House





Charles F. Wilkins, Jr., addresses House after being chosen for the position of president-elect of the Arkansas Medical Society.

to select nominations for positions on the State Medical Board and the State Board of Health.

House members were reminded that Reference Committee meetings would be held immediately following the House and urged all members to attend.

The House of Delegates was declared in recess at 2:20 P.M. until 10:00 A.M. on Sunday, May 8.

## REPORTS

### SUPPLEMENTAL REPORT OF THE COUNCIL

**John P. Burge, Chairman**

The Council met on Sunday, March 13, 1983, in the Camelot Inn in Little Rock and conducted business as follows:

1. Heard a report from President Morriss Henry on the reception co-hosted by the Society. The Council directed that letters of appreciation be forwarded to Dr. and Mrs. Ellery Gay and Mrs. Louis Hundley for their assistance with the reception. Dr. Henry also reported on several legislative issues under consideration by the State Legislature.
2. Councilor Lloyd Langston reported on the 1983 Leadership Conference of the American

Medical Association which he attended as one of the Society's representatives.

3. The Council heard a discussion by Mr. Bob Shoptaw of Arkansas Blue Cross-Blue Shield of features of three alternate delivery and financing systems for health care (Preferred Provider Organizations, Individual Practice Associations, and Health Maintenance Organizations).
4. The Council approved actions of the Executive Committee in a meeting held January 27, 1983.
5. Dr. Long discussed a request that a paramedical group be allowed to have a hospitality booth at the 1983 convention of the Society and the Executive Committee recommendation against approval. The Council voted to support the Executive Committee recommendation. The Council further voted to request that the Society's Legislative Committee meet with representatives of the paramedical group concerned to discuss mutual interests.
6. The Council voted to direct the executive vice president to write the Legislative Council requesting that the Society be informed of

PRINCIPAL OFFICERS OF THE ARKANSAS MEDICAL SOCIETY FOR 1983-84



First Vice President Warren Douglas, Treasurer James M. Kolb, Jr., Secretary Elvin Shuffield, President-elect Charles F. Wilkins, Jr., President Asa Crow, Immediate Past President Morris Henry, Chairman of the Council John P. Burge, and Second Vice President Charles Rodgers.

hearings or discussions pertaining to licensing of x-ray technicians between now and the next session of the Legislature.

7. The Council directed that physicians appointed to the Medical Services Review Committee whose intent was not to attend all meetings of the Committee be replaced by other representatives of the specialty involved. The committee member is to be selected from nominations submitted by the specialty group.
8. The Council voted to distribute to the employees the amounts credited to them on the Society books toward the defined contribution plan, plus interest, for the period from October 1980 through December 1981 because the new plan was not in effect at that time and the funds are not eligible for the defined contribution plan approved in 1982.
9. The Council voted to pay the balance on the word processing equipment.
10. The Council voted to endorse the statement of the Board of Regents of the American College of Surgeons dated February 6, 1983,

regarding Proposed Revisions in the Medical Staff Standards of the Joint Commission on Accreditation of Hospitals. A resolution in support of that position is to be presented to the House of Delegates of the Society in May and, if approved, to the American Medical Association in June.

**JCAH MEDICAL STAFF STANDARDS**

WHEREAS, the voluntary accreditation of hospitals has contributed to the finest quality of medical care for all hospitalized patients, and

WHEREAS, the Board of Commissioners of the Joint Commission on Accreditation of Hospitals has tentatively approved proposed revisions in the Accreditation Manual for Hospitals, which would replace the term "medical staff" with the term "organized staff," and

WHEREAS, the revisions would allow the individual hospital the option of determining standards for admission of patients, and responsibility for patient care in hospitals would not necessarily rest with fully licensed physicians functioning as a qualified medical staff, and



WHEREAS, the proposed revisions could have a profound detrimental effect on the quality of medical and surgical care in the hospitals of this country,

NOW, THEREFORE, BE IT RESOLVED, that the Arkansas Medical Society express its opposition to this proposed revision in the JCAH Accreditation Manual, and

BE IT FURTHER RESOLVED that the American Medical Association be urged to oppose the proposed revision in the accreditation manual and to instruct the AMA Commissioners on the JCAH to work for rejection of the proposed revision.

11. The chairman of the Legislative Committee, Dr. Weber, brought the Council up to date on medical issues before the current session of the General Assembly.

The Executive Committee then went into Executive Session and the following actions were recorded by Secretary Shuffield:

1. The Council approved a motion that the Society give Miss Richmond \$500 per month to begin at retirement after 35 years of service or longer and continue the payments until she reaches 65 or her death, at which time the payments would cease to be distributed. The principles set out in Attachment #11 of Mr. Mitchell's report on the termination of the defined benefit plan will continue in effect, deleting the formula concerning the monetary agreement.
2. The Council approved a motion that Mr. Mitchell be authorized to determine the amount of money necessary to be set aside to earn interest in sufficient amount to take care of this obligation, if accepted.

#### REPORT OF COMMITTEE ON LEGISLATION

**James R. Weber, Chairman**

I am pleased to bring to you the report on Medical Legislation.

We would like to recognize and thank those of you who served as Physicians of the Day and to those of you who contacted your legislator pertaining to the various bills. The members of the Legislature not only seem to appreciate the medical services made available but seemed to be pleased to see the doctors from home there and to introduce them to the House and Senate.

We want to give our heartfelt thanks to Fritzie Means, RN, who was there to run the dispensary



President-elect Charles F. Wilkins, Jr., Russellville.

every day of the session. Her concern and care for the Legislators and their families deserve special recognition.

I am proud to report that you were served well by your fulltime staff at the Legislature. The tremendous energy and integrity of Attorney Mike Mitchell and Ken LaMastus have earned them the credibility and respect to get the job done.

The visits and support from the medical wives were much appreciated during this past session.

We especially want to say thank you to Dr. Elvin Shuffield, Dr. Payton Kolb, and Dr. Ben Saltzman for the tremendous amount of time they each devoted to this Legislative session.

To Dr. Long, Leah Richmond and all the Society staff, all the hard work and support given every day was much appreciated.

I would like to emphasize to you that there has been a significant shift in political action from the National scene to the State Legislatures throughout the Nation in regard to matters pertaining to health care and medical practice.

No one would deny that in the recent legislative session there was a blitz on for utility reform. The



President Asa A. Crow, Paragould.

headlines of every newspaper in the State made that an obvious fact. Nonetheless, there was only about a dozen bills directed at utilities. There were over sixty bills that affected medical practice and health care in a major way. Medicine was caught in a blizzard. Keeping up with all those bills and working to have major impact on their outcome provided quite a challenge to our Capitol team this session. Our Society president, Senator Morriss Henry, deserves special recognition for the yeoman's job he did for us during this most difficult session.

The newsletter reviews most of the major bills and their outcome for you.

I would like to relate to you a few basic observations from our experience in this legislative session and propose to you a plan for the Arkansas Medical Society to strengthen political activities in the State Legislature.

The medical profession has a lot to offer to the legislative process. The input from physicians is not only desired by members of the Legislature but also duly sought. We have the responsibility to be available to give accurate information and help pass good legislation.

To be most effective in our legislative efforts we must strive harder to stand united and not become fragmented on the major legislative issues confronting medicine. If our adversaries are able to get just one physician on their side, they gain a lot of steam.

An intense public relations effort by physicians dovetails with a sound political action program and both seem necessary for ultimate success.

The following is a program proposed to strengthen our political actions at the State level:

1. *State Legislator Contacts.* There should be at least one physician contact for each State Legislator. The contact should be a physician who has a close acquaintance with the Legislator, to assist in his election by raising campaign contributions for primary, runoff and general elections, giving him dinners or coffees or whatever is appropriate to assist him in his election. Finally, during the Legislative Session, this contact would be asked to assist us in lobbying efforts with respect to that Legislator's vote on issues which affect medicine.
2. *State Legislative Committee Campaign Fund.* A fund must be accumulated for campaign contributions to be used exclusively for State Legislators and State Constitutional officers. The campaign contributions will be determined by the Arkansas Medical Society State Legislative Representatives.
3. *Arkansas Medical Society Legislative Reception.* During each regular session, the Arkansas Medical Society should sponsor a reception for the Arkansas General Assembly to be attended by members of the Council, officers of the Medical Society, State legislator contacts and special guests.
4. *Physician Legislators in the Arkansas General Assembly.* We must have physicians as members of the Senate and House. We must make a concerted effort to seek out physicians who are willing to run for these positions and provide maximum physician support for their election.

#### **REPORT OF THE SUB-COMMITTEE ON STATE HEALTH AND MEDICAL RESOURCES FOR CIVIL DEFENSE**

**Thomas L. Eans, Chairman**

Minimal action has been taken by this committee. Several members have been contacted by



phone for discussion of the potential and purpose of this committee. It has not been very active in recent years. The consensus of opinion seems to be that there is an unfilled need in the area of civil defense, but the problem is of such a magnitude that it seems to be beyond our scope to solve the problem. Communication has been made to the State Health Department to the Office of Emergency Services to try to determine what roles the Medical Society could play in assisting them in times of man-made or natural disasters. It has been determined that there is a State Emergency Responsibility Plan but, unfortunately, this committee has been unable to obtain a copy of this document from the State Health Department.

It is felt that civil defense, as pertains to this committee's title, does imply environmental, natural, and man-made disasters, and it would be desirable for the physicians of this State to participate in whatever manner they are needed for the resolution of the illnesses that may result from these disasters. It is felt that further communication needs to be established between the Health Department and the Medical Society and possibly other groups regarding any unfilled needs.

It is our understanding that in any massive disaster,

the Health Department provides triage at the scene until a physician arrives there, but apparently there is no plan to ask for the physician. Perhaps each county health officer or some appropriate physician could be designated as the person responsible for providing this assistance when contact is made by the Health Department team.

The most unfilled need, we all agree, is that of providing health care in the event of a nuclear war. This problem, of course, is monumental and there is a trend across the country to believe that it will be an impossible situation; that is, they relate this to the philosophy of "unwinnable war." Although the entire committee has not met and discussed this, as the chairman I propose that this is a false concept and that the physicians of this State, as well as of all states, can and should be ready and willing to provide medical assistance to the best of their ability in the event of a nuclear war and, furthermore, that there should be a State disaster plan to assist them in doing this. Of course, no one believes that this will be simple, but that does not mean that it is impossible.

Further communications in these areas will be pursued this year by this committee.



## FINAL SESSION

### HOUSE OF DELEGATES

**MAY 8, 1983**

Speaker Chudy called the House to order at 10:00 a.m. on Sunday, May 8th, 1983. Invocation was by Vice Speaker Phillips.

Members of the House registered for the final meeting were: ARKANSAS, G. L. Guyer; BAXTER, John F. Guenther; BENTON, Michael R. Platt, E. Bruce Waldon; BOONE, Jean Gladden; CHICOT, Danny T. Berry; CLARK, N. R. Ritter; CRAIGHEAD-POINSETT, Don Vollman; CRITTENDEN, C. Herbert Taylor, Jr.; FAULKNER, Robert B. Benafield; GARLAND, James L. Gardner and William R. Mashburn; GREENE-CLAY, Richard O. Martin; HEMPSTEAD, Jim McKenzie; JEFFERSON, R. Teryl Brooks, Jr.; LAWRENCE, Ralph F. Joseph; LEE, Dwight W. Gray; LOGAN, W. R. Daniel; MISSISSIPPI, Joel

P. Cook; MONROE, N. C. David, Jr.; NEVADA, Michael C. Young; OUACHITA, J. R. Kendall; PHILLIPS, Robert Miller; PULASKI, James Cornett, Raymond V. Biondo, Gordon P. Oates, Warren M. Douglas, Carlos A. Araoz, William J. Morton, Charles H. Rodgers, Gregory A. Dwyer, Douglas E. Young, Thomas A. Bruce, George K. Mitchell, Paul J. Cornell, Orval E. Riggs; SEBASTIAN, Carl L. Williams, Morton C. Wilson, A. C. Bradford, A. Samuel Koenig, J. David Busby; UNION, Willis M. Stevens; WASHINGTON, Earl B. Riddick, Jr., Lee B. Parker, Jr., F. E. McEvoy, J. E. McDonald; YELL, James L. Maupin. COUNCILORS: Merrill J. Osborne, J. Larry Lawson, Jim E. Lytle, John E. Bell, John Hestir, John P. Burge, George Warren, Cal R. Sanders, F. E. Joyce, James D. Armstrong, E. K. Clardy,



James M. Kolb, Jr., escorts Charles F. Wilkins, Jr., to podium after he was named president-elect of the Society.

Ronald J. Bracken, W. Ray Jouett, Frank E. Morgan, Harold D. Purdy, Charles W. Logan, Richard N. Pearson, Rhys A. Williams, Charles F. Wilkins, Ken Lilly. PRESIDENT, Asa A. Crow; FIRST VICE PRESIDENT, Paul A. Wallick; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER OF THE HOUSE, W. P. Phillips; SECRETARY, Elvin Shuffield; TREASURER, James M. Kolb, Jr. PAST PRESIDENTS: Morriss M. Henry, Purcell Smith, Jr., A. E. Andrews, W. Payton Kolb, T. E. Townsend, Ross Fowler and C. R. Ellis.

Vice Speaker Phillips announced that there were 79 delegates registered and that a quorum was present.

Speaker Chudy recognized Nominating Committee Chairman Frank Morgan for the report of the Nominating Committee. Dr. Morgan reported that nominations for president-elect were:

Charles F. Wilkins, Jr., Russellville

A. E. Andrews, Texarkana

Speaker Chudy asked for further nominations from the floor. Dr. Andrews was recognized by Speaker Chudy. Dr. Andrews withdrew his name from the slate and moved that Dr. Wilkins be

elected as president-elect by acclamation. The House so voted. Dr. Wilkins was escorted to the podium by James Maupin and James Kolb. Dr. Wilkins thanked the members for the honor. Dr. Wilkins stated that because of the duties which have been placed on the immediate past president, the job becomes more or less a three year one and he pledged to do all he could over the next three years to promote the quality of medicine in Arkansas.

The following officers were elected unanimously by the House of Delegates:

First Vice President: Warren Douglas,  
Little Rock

Second Vice President: Charles H. Rodgers,  
Little Rock

Third Vice President: James L. Gardner,  
Hot Springs

Secretary: Elvin Shuffield, Little Rock

Treasurer: James M. Kolb, Jr., Russellville  
Speaker, House of Delegates: Amail Chudy,  
North Little Rock

Vice Speaker, House of Delegates:  
Paul A. Wallick, Monticello

For Councilors:

District 1: M. J. Osborne, Osceola

District 2: Jim Lytle, Batesville

District 3: John Hestir, DeWitt

District 4: Lloyd Langston, Pine Bluff

District 5: George Warren, Smackover

District 6: F. E. Joyce, Texarkana

District 7: E. K. Clardy, Hot Springs

District 8: W. Ray Jouett, Little Rock;

Charles W. Logan, Little Rock

District 9: Richard Pearson, Rogers

District 10: W. P. Phillips, Fort Smith

The House unanimously elected the following to represent the Society in the House of Delegates of the American Medical Association:

For Delegate, term January 1984 to December 1985: T. E. Townsend, Pine Bluff

For Alternate Delegate, term January 1984 to December 1985: W. Payton Kolb, Little Rock

For Delegate, term January 1983 to December 1984 (new position): A. E. Andrews, Texarkana

For Alternate, term January 1983 to December 1984 (new position): George Warren, Smackover

For Alternate, term January 1983 to December 1984 (vacancy): Richard Pearson, Rogers



Upon recommendation of the Nominating Committee, the House approved the following nominations for the member-at-large position on the Arkansas State Board of Health, term beginning January 1, 1984:

Robert Miller, Helena

Warren Boop, Little Rock

Dwight Gray, Marianna

Speaker Chudy thanked the Nominating Committee for its work during the last two years under the new system for nominating officers and the House gave the committee an ovation.

Speaker Chudy recognized Purcell Smith of Pulaski County for a question of personal privilege. Dr. Smith commented that, as one of the younger members of the Society, he had never attended a convention of the Society in a location other than Little Rock or Hot Springs. He stated that he had heard nothing but favorable comments regarding the Annual Session in Fayetteville. He expressed the desire to personally thank the staff, the Annual Session Committee, the physicians of Washington County, and the Auxiliary in Washington County for their fine efforts in making this meeting a success. Also as a question of privilege, he moved that the Arkansas Medical Society formally express its appreciation to the staff of the Hilton Hotel and the Continuing Education Center for their outstanding efforts in making the meeting such a pleasant experience. By standing ovation, the House voted approval.

Speaker Chudy recognized Paul Wallick, chairman of Reference Committee Number One, for the report of his committee.

#### REPORT OF REFERENCE COMMITTEE NUMBER ONE

**Paul Wallick, Chairman**

Mr. Speaker and members of the House of Delegates: Your reference committee gave careful consideration to the items referred to it and makes the following report.

1. *Mr. Speaker, your Reference Committee recommends that the following reports be received for the information of the House of Delegates:*

Annual Session Committee

Report of Councilors for the Fifth District

Report of the Executive Vice President

Report of the Arkansas Department of Health



Asa A. Crow receives gavel, symbol of office of president of the Society, from Morris M. Henry.

2. *Mr. Speaker, your Reference Committee recommends adoption of the report of the Budget Committee as published.*
3. Report of the Council

The published report of the Council and supplemental report of the Council with the JCAH Resolution were discussed and the *Committee recommends adoption* as written. Dr. James Todd, member of the Board of Trustees of the AMA, attended the reference committee meeting and reported that there will be a change in the wording of the proposed revision of the JCAH Medical Staff standards which will be presented to state societies at a later date. The members of the committee recommend that the resolution be submitted to the AMA.

The position papers were accepted as part of the report of the Council as written.

Mr. Speaker, this concludes our report and I move adoption of the entire report of this reference committee by the House of Delegates.

The House adopted the Report of Reference Committee Number One as presented.

Dr. Wallick thanked the members who served



Morris M. Henry receives plaque of appreciation for his service as president of the Society.

with him on the committee — Gordon P. Oates, Ronald Bracken, Charles F. Wilkins, and Mae Nettleship.

Speaker Chudy recognized A. Samuel Koenig, chairman of Reference Committee Number Two, for the report of his committee.

## REPORT OF REFERENCE COMMITTEE NUMBER TWO

### A. Samuel Koenig, Chairman

Mr. Speaker and members of the House of Delegates: Your reference committee gave careful consideration to the items referred to it and makes the following report.

#### 1. Report of the Committee on Hospitals

There was some discussion of the fact that this committee had not met in the past year and that there had been no specific charge to the committee. It was the feeling of those present at the Reference Committee meeting, and also the Reference Committee members, that the potential impact of prospective reimbursement (DRG) mechanisms to be implemented on hospitals this year have significant potential influence on hospital operations and relationships between physi-

cians and hospital administration. The committee feels that these potential influences should be studied and evaluated in depth and that the results of these studies should be disseminated to the membership of the Arkansas Medical Society. Your committee therefore *recommends* that the officers and Council of the Society charge the Committee on Hospitals to gather available information on prospective reimbursement, to evaluate and assess the potential impact and ramifications of these regulations, to suggest potential avenues of action, and to disseminate the findings of these studies to the membership.

*Mr. Speaker, your Reference Committee recommends acceptance of the Report of the Committee on Hospitals for the information of the House of Delegates.*

#### 2. Report and Supplementary Report of the Constitutional Revisions Committee

The committee reviewed the Report of the Constitutional Revisions Committee along with the Supplemental Report pertaining to revisions of Chapter I, Section 3, Paragraph C of the Bylaws. It is the understanding of the Committee from discussion presented that the addition of Paragraph C would exempt all new active members of the Society, both new graduates and older physicians establishing new practices in Arkansas, from dues as outlined in the proposed bylaws change. The committee finds this to be an excellent method for encouraging new memberships in a manner that is easy to administer. The committee also feels that component societies should consider a similar modification to their dues obligations.

*Mr. Speaker, your Reference Committee recommends adoption of the Report and Supplemental Report of the Constitutional Revisions Committee.*

#### 3. Reports of the Professional Relations Committees of the First and Tenth Councilor Districts

Your reference committee received the reports of these two councilor districts as informational items and there was no discussion on them.

*Mr. Speaker, your Reference Committee recommends acceptance of the reports of the above committees as written.*

#### 4. Report of the Medical Education Foundation for Arkansas

Your reference committee is pleased to take note of, and would like to commend, Dr. Robert



Watson for his many years of service and visionary leadership as president of the Medical Education Foundation for Arkansas. Under his guidance and care, the resources for meaningful contributions to medical education in Arkansas have been established. The Historical Room of the Arkansas Medical School Library has been named in his honor. The committee members—along with I am sure, all members of the Arkansas Medical Society—wish him God's grace and care.

*Mr. Speaker, your Reference Committee recommends acceptance of this report as written.*

#### 5. Arkansas Medical Society Political Action Committee

The committee received a discussion from PAC Chairman Larry Lawson of the future plans of the Political Action Committee. Difficulties in recruiting members were discussed. The committee members feel that in this time of extensive encroachment of Federal and State governments into health care delivery, broad membership in PAC is highly desirable. The committee *encourages* the development of new, creative, and innovative methods to promote membership in PAC.

*Mr. Speaker, your Reference Committee recommends acceptance of this report as written.*

#### 6. Sub-Committee on State Health and Medical Resources for Civil Defense

The committee noted that there has been an increased amount of transfer of toxic substances and waste materials within the State of Arkansas with the consequent increased risk of spillage and local emergencies therefrom. Therefore, the committee would like to *recommend* that the Sub-Committee on State Health and Medical Resources pursue avenues of cooperation between the Society and local medical emergency preparedness committees with the State emergency disaster plans administered by the Department of Health.

Secondly, we would like to *recommend* that the committee pursue avenues of approach to incorporate the concepts of emergency and disaster planning into the medical education curriculum in conjunction with the University of Arkansas College of Medicine.

*Mr. Speaker, your Reference Committee recommends acceptance of the Report of the Sub-Committee on State Health and Medical Resources for Civil Defense as written.*



Asa A. Crow makes his inaugural address.

#### 7. Pulaski County Resolution

The committee recognizes and concurs that the quality of the efforts of the Medical Society Auxiliary in their educational programs should be commended.

*Mr. Speaker, your Reference Committee recommends a "do pass" of the Pulaski County Resolution.*

Mr. Speaker, I move adoption of the entire report of this reference committee.

The House so voted.

Mr. Speaker, this concludes the report of your Reference Committee Number Two. I wish to thank those that appeared before this reference committee and my fellow members of the committee, George Warren, John Crenshaw, William Morton, and James Robinette. We appreciate the opportunity to meet and discuss committee matters with our Medical Student Observer, Kris Shewmake. Lastly, I would like to thank those members of the Arkansas Medical Society staff who assisted in the preparation of this report.

Speaker Chudy called on Gerald Guyer for the report of Reference Committee Number Three.



Regina Hopper, Miss Northwest Arkansas, entertained as part of the inaugural program on Saturday evening.

### REPORT OF REFERENCE COMMITTEE NUMBER THREE

Gerald Guyer, Chairman

Mr. Speaker and members of the House of Delegates: Your reference committee gave careful consideration to the items referred to it and makes the following report.

1. Report on Cancer Control
2. Report of Professional Relations Committee for Ninth Councilor District
3. Report of Delegate to AMA

*Mr. Speaker, your Reference Committee recommends that these reports be received for the information of the House of Delegates.*

4. Report of Sub-Committee on Liaison with Vocational Rehabilitation

The committee received the report as information and recommends that the Vocational Rehabilitation Service prepare and disseminate to Arkansas physicians an outline of available services and a list of rehabilitation counselors.

*Mr. Speaker, your Reference Committee recommends the Report of the Sub-Committee on Liaison with Vocational Rehabilitation be re-*

*ceived for the information of the House of Delegates.*

5. Report of Councilors for the Eighth District

The report from the Eighth District was received as written. The committee recommends that the Society write a letter of appreciation to the Arkansas Supreme Court's committee on professional conduct thanking them for their prompt action in protesting television ads by a local attorney.

*Mr. Speaker, your Reference Committee recommends that the report of Councilors for the Eighth District be received for the information of the House of Delegates.*

6. Report of Arkansas State Medical Board

The committee reviewed the report of the State Medical Board. A supplemental report was submitted by Dr. Joe Verser, Secretary of the State Medical Board, stating the Board plans to become involved in investigation of unreasonably high professional fees.

*Mr. Speaker, your Reference Committee recommends the report of the Arkansas State Medical Board be received for the information of the House of Delegates.*

7. Report of Legislative Committee, Arkansas Medical Society

The committee discussed the report of the Legislative Committee. A supplemental report was submitted by Dr. Elvin Shuffield, Secretary of the Arkansas Medical Society, regarding funding for the Legislative Committee. The reference committee was impressed by the urgency of the need for financial assistance for the Legislative Committee in regard to the support of candidates seeking election to State government.

*Mr. Speaker, your Reference Committee recommends that the report of the Legislative Committee be adopted as written.*

The committee recommends that this proposal be referred to the Council of the Society for implementation.

Mr. Speaker, I move adoption of the entire report of this Reference Committee. The House adopted the report as presented by Dr. Guyer.

Mr. Speaker, this concludes the report of your Reference Committee Number Three. I wish to thank those who appeared before this reference committee, my fellow members of the committee—Ray Jouett, Carl Williams, Charles Rodgers, A. E. Andrews, and the medical student observer Her-





Mr. Harvey Jones of Springdale received the Society's first "Special Layman Award".

shel Garner—and those members of the staff who assisted us.

Speaker Chudy recognized President Crow. Dr. Crow expressed appreciation on behalf of the Legislative Committee and his personal appreciation to the members of the House for adopting the proposals put forth by the Committee on Medical Legislation. He felt it represented foresight and concern of the House about the encroachment of the Federal and State government on the practice of medicine. He expressed the hope this system will allow collection of monies to support our political candidates *in the State*. He pointed out that this is completely separate from ARK-PAC. ARK-PAC will continue to function. As a matter of fact, the Auxiliary has been asked to take over the duties and the function of collecting the dues and getting new members into ARK-PAC, in attempting to establish a system that will be permanent and consistent. With the new program being implemented, the goal will be to collect a minimum of \$100 from a minimum of 500 people. Checks should be made payable to AMS State Legislative Fund. Future donations should be sent to Ken LaMastus at the

Arkansas Medical Society headquarters office in Fort Smith.

Speaker Chudy stood to a point of personal privilege. He expressed appreciation to Pat Phillips for his outstanding work and assistance with the House of Delegates during his tenure as vice speaker. Dr. Phillips responded, expressing appreciation for having served as vice speaker. He commented that the meeting coming to an end was the most bland, pleasant, wonderful meeting of the Society that he had ever attended. He commented that he was reminded of a conversation with his father, who said to him, "Son, don't ever forget—dogs fight, men arbitrate."

Speaker Chudy called on the chairman of the Council, John Burge, for a report on actions of the Council during the annual meeting.

#### REPORT OF THE COUNCIL

##### John P. Burge, Chairman

The Council met on Thursday, May 5, 1983, and transacted business as follows:

1. Approved a request from the Insurance Committee for acceptance of a new disability policy for the Medical Society group plan.

2. Approved actions of the Executive Committee on April 6, 1983.
3. Received a report from Dr. John Bell, chairman of the Long Range Planning Committee, and:
  - (1) Endorsed proposal for full-time staffing for public relations with the stipulation that details for implementation be presented to the Executive Committee within 45 days and distributed to the Council for consideration at its next meeting.
  - (2) Recommended that proposed amendments to the Bylaws be presented for first reading at this annual convention to provide initial waiver of dues and reduction of dues the next year for new members of the Society.
  - (3) Recommended that a letter from the Society be forwarded to each individual accepted for the University of Arkansas College of Medicine and to each graduate of the College of Medicine.
  - (4) Recommended implementation of a general education program on methods of cost containment, established the Society's Medicine-Business Liaison Committee as a permanent, on-going project of the Society; created an Advisory Committee within the Society to act as liaison to any group such as insurance companies and to help educate the Society on what is developing in cost containment.
  - (5) Recommended a feasibility study by an independent firm to determine whether the Society should (a) own or lease its office space, (b) build or purchase with cost offset by leasing of some space, and (c) remain in Fort Smith or relocate to some central Arkansas location; the Executive Vice President is to report back to the Council on estimated cost of such study.

The committee was commended for its diligence and the completeness of its report.

4. The Council approved the report of the audit of the Society's records for the calendar year 1982.
5. Approved requests for dues exemptions submitted by the component societies.
6. Approved proposal for a State Political Program as presented by James Weber, chairman of the Legislative Committee.

7. Approved contribution of \$2,500 to the University Library Fund in honor of Lou Holtz in lieu of honorarium for his participation in the Friday night party during the convention.

The Council met on Friday, May 6, and took the following actions:

1. Voted to contribute \$300 to the Med Camps scholarship fund and \$200 to the fund for the camp swimming pool.
2. Requested that the Medicine-Business Liaison Committee review the report of the Health Care Cost Commission and report to the Council.
3. Approved appointments to the Medical Services Review Committee as follows:  
Representing—  
Surgery: Glenn P. Schoettle, West Memphis  
Allergy: Vida Gordon, Little Rock  
Dermatology: William Galloway, Russellville  
Otolaryngology: Dwayne Ruggles, North Little Rock  
Ophthalmology: Mitchell Singleton, Fayetteville  
Radiology: A. E. Andrews, Texarkana  
Internal Medicine: David Crittenden, Fayetteville  
Pediatrics: John Trieschmann, Hot Springs
4. Recommended that Curry Bradburn of Little Rock be re-appointed to the Board of Blue Cross-Blue Shield.
5. Appointed Charles Logan to a four-year term on the Board of Trustees of the Medical Society Pension Plan.

The Council met on Saturday, May 7, and transacted business as follows:

1. Appointed Lloyd Langston, Paul Cornell, and Kemal Kutait to the Position Papers Committee.
2. Voted support of a revision of State Statutes to revert to the original concept of loan repayment under the Rural Practice Loan program.
3. Voted to commend the Crittenden Memorial Hospital on its cost containment efforts.
4. Approved revisions in the proposal to Miss Richmond regarding the terminated pension plan and approved revisions in the wording of the new defined contribution plan.

The Council met on Sunday, May 8, and took the following actions:

1. Appointed to the Board of Directors of Ark-PAC:  
Larry Lawson





Officers of the Society at the inaugural ceremony on Saturday evening, May 8. Seated, left to right, Immediate Past President Purcell Smith, Jr., President Morris Henry, President-elect Asa Crow, Chairman of the Council John P. Burge, (standing, left to right) Secretary Elvin Shuffield, Treasurer James M. Kolb, Jr., Vice Speaker Pat Phillips, Vice Presidents Gerald Guver and Samuel Koenig, and Speaker Amail Chudy. First Vice President and Convention Chairman Paul Wallick was also present but is not included in the photograph.

Charles Rodgers  
James M. Kolb, Jr.  
A. Samuel Koenig  
Milton Deneke  
John Hestir  
Bobby McKee  
Robert Miller  
Ken Lilly  
John Crenshaw  
Mrs. Charles Wilkins  
Mrs. John Burge  
Mrs. Lynn Harris  
Mrs. Herbert Taylor

2. Authorized an expenditure of up to \$2,000 by the Public Relations Committee for sponsorship of seminars for physicians and their employees.
3. Voted to recommend to the Board of Directors of the Medical Education Foundation for Arkansas that it name the lecture series for the College of Medicine the Robert Watson Lecture Series.

The House approved the report of the Council as presented by Dr. Burge.

T. E. Townsend of Pine Bluff was recognized by Speaker Chudy. Dr. Townsend expressed appreciation for James Todd's participation in the Society's meeting and the outstanding job he did as a representative of the American Medical Association. Dr. Townsend requested that the Society forward an official letter of appreciation to Dr. Todd and the House so voted.

Speaker Chudy announced the following nominations for vacancies on State boards which will occur December 31, 1983:

State Board of Health—

Third Congressional District:

A. Samuel Koenig, Fort Smith  
Ken Lilly, Fort Smith  
Peter Irwin, Fort Smith

Sixth Congressional District:

Howard Harris, Dumas  
John Hestir, DeWitt  
L. J. P. Bell, Helena

State Medical Board—

Sixth Congressional District:

James L. Gardner, Hot Springs

The nominations were approved by the House of Delegates for submission to the Governor.

Speaker Chudy expressed his appreciation to all of the members for making the meeting one of the best ever and for the joint efforts to become an adhesive and cohesive group. He expressed appreciation to the headquarters staff for work in getting the meeting ready and for the work that went on into the night. Dr. Chudy asked the

House for a show of approval for the staff; the House responded with a standing ovation.

Vice Speaker Phillips announced there were 318 physicians registered for the meeting.

Speaker Chudy announced there would be a brief reorganizational meeting of the Council immediately following adjournment of the House.

The meeting of the House of Delegates adjourned at 10:45 a.m.



## SCIENTIFIC SESSIONS

"Old and New — A Delicate Blend" was the theme for the general session program of the 1983 annual meeting. Paul A. Wallick of Monticello was program chairman.

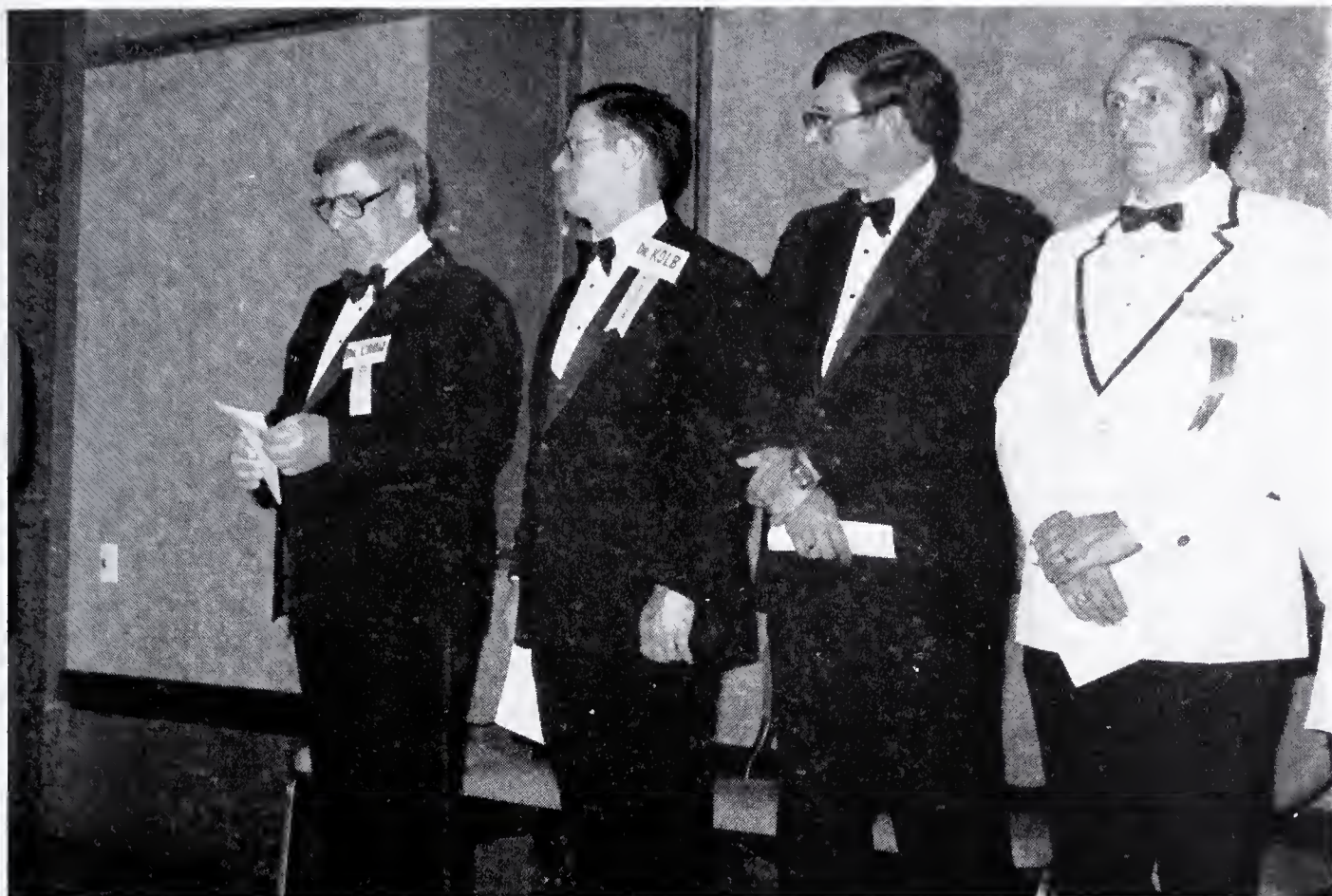
Dr. Wallick, as first vice president, presided at the opening general session. The first speaker was David W. Robinson, Professor of Surgery at the Kansas University Surgery Association, who spoke on "Burns — Historical and Modern Perspective." Godfrey P. Oakley, Jr., Chief of the Birth Defects Branch of the Centers for Disease Control in Atlanta, Georgia, spoke on "Birth Defects Surveillance." Raymond Bauer of Tyler, Texas, presented "Sexual Dysfunction — Its Cause and Treatment." "Update on Estrogen Replacement Therapy" was presented by J. S. Schinfeld of the Department of Obstetrics and Gynecology at the University of Tennessee Center for the Health Sciences College of Medicine. Daniel R. Hinthorn, Associate Professor of Medicine with the University of Kansas College of Health Sciences in Kansas City concluded the morning session with a presentation on "Antibiotic Update."

A. Samuel Koenig, second vice president, presided at the second general session held Friday afternoon. Jerome D. Cohen, Associate Professor of Internal Medicine at the St. Louis University Medical Center in Missouri, opened the second session. His presentation was on "Hypertension — The Delicate Balance." Joseph Franciosa, Professor of Medicine and Director of the Cardiovascular Division at the University of Arkansas College of Medicine, spoke on "Treatment of Hypertension and Congestive Heart Failure." Concluding the Friday afternoon session was a mini-sym-

posium on Cerebral Vascular Disease. Participants were: Dennis D. Lucy, Jr., Professor and Chairman of the Department of Neurology at the University of Arkansas College of Medicine, who spoke on "Diagnosis and Classification of Ischemic Cerebral Lesions"; William M. Chaddock, Associate Professor of Neurosurgery at the University of Arkansas College of Medicine, who presented "Differential Diagnosis of Lesions Simulating Ischemic Cerebral Events"; Eugene F. Binet, Professor and Vice Chairman of the Department of Radiology at the University of Arkansas College of Medicine, who discussed "Neuroradiology of Cerebral Vascular Disease: An Update"; and Warren C. Boop, Professor of Neurosurgery at the University of Arkansas College of Medicine, who spoke on "Surgical Treatments for Cerebral Vascular Disease." Following the individual presentations, the speakers served as a panel for discussion of the presentations.

Gerald L. Guyer, third vice president, presided at the final session on Saturday morning. "Family Practice, A New Perspective" was the opening topic, presented by E. J. Chaney of Belleville, Kansas, immediate past president of the American Academy of Family Physicians. Patricia Dix, Fellow in Obstetrics and Gynecology with the Bowman Gray School of Medicine of Wake Forest University in Winston-Salem, North Carolina, spoke on "Identification of the High Risk Obstetrical Patient." Allen R. Myers, Professor of Medicine at Temple University Health Sciences Center, in Philadelphia, Pennsylvania, concluded the general session program with his presentation on "Rheumatoid Arthritis — Up-To-Date Treatment."





President Asa Crow, Treasurer James M. Kolb, Jr., Vice President Gerald Guyer, and Vice President and Convention Chairman Paul Wallick at inaugural ceremony.

## RELATED MEETINGS

The Arkansas Chapter of the American College of Surgeons met on Friday, May 6th, for a luncheon meeting. David W. Robinson, Professor of Surgery at the University of Kansas Medical Center in Kansas City, spoke on "Evolution of Skin Grafting." J. Larry Lawson of Paragould is president of the chapter and Samuel Landrum of Fort Smith is secretary.

The Neurosurgery Section met for a business meeting on Friday afternoon, May 6th. William Chadduck of Little Rock was elected Secretary.

The Arkansas Academy of Ophthalmology met on Saturday, May 7th, for scientific and business sessions. David Wilkes from the Department of Ophthalmology at the University of Arkansas College of Medicine spoke on "Diagnosis and Surgical Management of Lacrimal Disorder." Officers elected at the meeting were: Milton Hughes of Pine Bluff as president, Michael Roberson of Little Rock as secretary-treasurer, and John Williamson of El Dorado as secretary-elect.

The Otolaryngology — Head and Neck Surgery Section held a scientific and business meeting on

Saturday, May 7th. During the meeting, Carlton L. Chambers of Harrison was installed as president; Edwin L. Harper of Hot Springs was elected president-elect; and Dwayne Ruggles of North Little Rock was re-elected secretary-treasurer.

The Arkansas Section, American College of Obstetricians and Gynecologists had a luncheon meeting on Saturday, May 7th, with David Barclay, chairman, presiding. Special guest was Patricia Dix, a Fellow with the Department of Obstetrics and Gynecology at Bowman Gray School of Medicine in Winston-Salem, North Carolina.

The Arkansas Society of Internal Medicine met for a socio-economic program and business meeting on Saturday, May 7th. George K. Mitchell, president and chief executive officer of Arkansas Blue Cross-Blue Shield, was the guest speaker. During the business session, Jerry Stewart of Fort Smith was installed as president. John Crenshaw of Pine Bluff is president-elect and Jack Blackshear of Little Rock is secretary-treasurer of the Society.

The Arkansas Orthopaedic Society met for a business meeting on Saturday, May 7. Newly elected officers are president James Buie from Fort Smith and secretary-treasurer Jerry L. Thomas from Little Rock.

The Arkansas Chapter, American College of Radiology, met on Saturday, May 7th. Murray T. Harris of Fayetteville is president, Charles McClain of Batesville is president-elect and Marolyn Spear of Stuttgart is secretary.

The Arkansas Academy of Family Physicians met for a scientific program and business session on Saturday, May 7, with president Lee Parker presiding. Ernie J. Chaney of Belleville, Kansas, immediate past president of the American Academy of Family Physicians, was guest speaker.

The Arkansas Society of Pathology held a

luncheon meeting and business meeting on Saturday, May 7. Don Vollman of Jonesboro, president, presided.

The Arkansas Urologic Society held a scientific program and business meeting on Saturday, May 7th. Alan Wein, chairman of the Division of Urology at the University of Pennsylvania School of Medicine, was guest speaker. Officers elected at the meeting were Alex Finkbeiner of Little Rock as chairman and Steve Wilson of Fort Smith as secretary.

The Arkansas Society of Plastic and Reconstructive Surgeons met for a business meeting and luncheon on Saturday, May 7th. James Stuckey of Little Rock is president of the Society. Cole Goodman, Fort Smith, is president-elect and Eugene Still, Fort Smith, is secretary-treasurer.



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## SCIENTIFIC EXHIBITS

The Society expresses its thanks to physicians who displayed exhibits and added to the educational benefit of the meeting. Presenting exhibits were:

Ted Bailey, James Pappas, and Sharon Graham, M.A., of Little Rock, "Small Fenestra Stapedectomy Technique: Reducing Risks and Improving Hearing"

John R. E. Dickins, Little Rock, "Hearing Loss as a Life-Threatening Sign—Acoustic Tumors"

Joe B. Colclasure, Little Rock, "Out-Patient Facial Plastic Surgery in Otolaryngology"

Mr. John Wallworth, Hot Springs, "Levi Arthritis Hospital"

James Patrick, Northwest Area Health Education Center, Fayetteville, "Office D & C"

Arkansas Chapter American Academy of Pediatrics, "Child Safety Car Restraints"

R. Sloan Wilson of Little Rock, "Helps for the Blind and Visually Impaired"

Spencer Albright, III, Fayetteville, "Office Treatment of Skin Cancer Using Multiple Modalities Excision and Closure Including Flaps and Grafts, Cryosurgery and Electrosurgery"

Ralph B. Bergeron, Ochsner Clinic, New Orleans, "Pre-Op Localization of Non-Palpable Breast Lesions—An Aid to Surgical Removal"

James R. McNair, Little Rock, "Macular Degeneration—A New Approach"

R. A. Petrino, H. Butler, E. S. Golladay, Arkansas Children's Hospital, Little Rock, "Evaluation and Management of Fecal Incontinence in Children"

Central Area Health Education Center, University of Arkansas College of Medicine

Mr. Tom South, Little Rock, "Disability Evaluation Under Social Security"

D. Bud Dickson, Little Rock, "Total Hip and Knee Replacement Arthroplasty," "Arthroscopy: Surgery of the Knee" and "Arthroscopy: Surgery of the Shoulder"



# OTHER ACTIVITIES

## MEMORIAL SERVICE

A joint Society-Auxiliary Memorial Service was held at 11:30 a.m. on Saturday, May 7, with Society president Morriss M. Henry presiding.

The service opened with Lowell Harris of Hope reading from Psalm 1.

An original anthem by Sandy Huckaba was sung by Nancy Rosenbaum Sikes.

James Armstrong of Ashdown read the Twenty-third Psalm.

Mrs. C. Herbert Taylor, president of the Arkansas Medical Society Auxiliary, read the names of deceased members of the Auxiliary as a candle was lighted for each by Dr. Henry. Members of the Auxiliary who died during the year were:

Mrs. Max (Dr. Doris) Baldridge, Heber Springs

Mrs. Bernard Capes, West Helena

Mrs. Charles Chestnut, Little Rock

Mrs. Albert Clowney, El Dorado

Mrs. James L. Dennis, Little Rock

Mrs. Frank Gavlas, Dardanelle

Mrs. William Hibbitt, Texarkana

Mrs. L. L. Hubener, Blytheville

Mrs. Henry V. Kirby, Harrison

Mrs. James M. Kolb, Sr., Clarksville

Mrs. R. C. Kory, Sr., Little Rock

Mrs. Joe Lyford, Russellville

Mrs. L. D. Massey, Memphis, Tennessee

(Osceola)

Mrs. Grover Poole, Jonesboro

Mrs. Charles K. Townsend, Marks, Mississippi

(Arkadelphia)

James Armstrong then read Micah 6:6-8.

Dr. Henry read the names of members of the Society who had died during the year as Mrs. Taylor lighted a candle for each. Members of the Society who died during the year were:

William F. Adams, Van Buren

John V. Busby, Little Rock

John W. Cole, Malvern

Joseph E. Cross, DeWitt

Frank E. Gavlas, Dardanelle

Michael N. Harris, North Little Rock

Ed G. Hopkins, Van Buren

Lemly L. Hubener, Blytheville

Albert E. Kalderon, Little Rock

James D. Kinley, Beebe

Bill B. Livingston, Camden

Richard M. Logue, Little Rock

Raymond V. McCray, Malvern

William J. Rhinehart, Little Rock

Warren S. Riley, El Dorado

Lloyd S. Rolufs, Eureka Springs

Gerald H. Teasley, Texarkana

Charles Wallis, Little Rock

L. A. Whittaker, Fort Smith

Harold B. Wright, Waldron

Psalm 121 was read by Herbert Wren of Texarkana.

Ms. Sikes sang "The Lord's Prayer" at the conclusion of the service.

## PRAYER BREAKFAST

A Prayer Breakfast for members of the Society and Auxiliary was sponsored by the Committee on Medicine and Religion, chaired by Walter O'Neal of Little Rock. The breakfast was held on Sunday morning, May 8, beginning at 7:30 a.m.

Invocation was by Joel Cook of Osceola. The New Creation Choir from the University Baptist Church in Fayetteville presented a choral program. Ray Jouett of Little Rock gave the devotional. Group singing was led by C. R. Ellis of Malvern.

## FIFTY YEAR CLUB LUNCHEON

The Fifty Year Club of the Arkansas Medical Society held a luncheon meeting on Friday, May 6, 1983. John McCollough Smith, president of the Club, presided at the luncheon meeting.

New members of the Club were announced and membership pins were presented to those present. New members are:

Jeff J. Baggett, Prairie Grove

Ulys Jackson, Harrison

Milton C. John, Jr., Stuttgart

John Walter Jones, Texarkana

Henry V. Kirby, Harrison

Ruth E. Lesh, Fayetteville

Ross E. Maynard, Pine Bluff

Orville B. McCoy, Harrison

Jim McKenzie, Hope

Woodbridge E. Morris, Little Rock

Mahlon D. Ogden, Little Rock

Johnnie P. Price, Monticello

Gerald M. Schumann, Des Arc

Oba B. White, Little Rock

Club members present for the meeting were G. Allen Robinson of Harrison, Vincent O. Lesh



Morris Henry of Fayetteville makes his farewell remarks as he ends his term as president of the Society.

of Fayetteville, Ruth Lesh of Fayetteville, Ulys Jackson of Harrison, John Price of Monticello, Charles R. Henry of Little Rock, Ross Maynard of Pine Bluff, G. Wallace Dickinson of Fayetteville, Milton C. John of Stuttgart, John F. Guenther of Mountain Home, Jim McKenzie of Hope, Woodbridge Morris of Little Rock, and Dr. Smith.

New officers of the Club are Milton John, president, and John Price, secretary.

#### **PRESIDENTS' LUNCHEON**

The Society was host for a luncheon honoring physicians who have served as president of the Society. The luncheon was held on Friday, May 6, at The Old Post Office Restaurant in Fayetteville. Attending were Kemal Kutait, Purcell Smith, W. Payton Kolb, A. S. Koenig, T. E. Townsend, Ross Fowler, Stanley Applegate, H. W. Thomas, C. R. Ellis and Joe Verser.

#### **BLUE CROSS-BLUE SHIELD PARTY**

Blue Cross-Blue Shield of Arkansas hosted a cocktail reception on Thursday evening for all members of the Society and their guests. George Mitchell, president, and members of his staff were present, extending hospitality to all. The

Society expresses its appreciation to Blue Cross-Blue Shield for another great party.

#### **API COCKTAIL PARTY**

American Physicians Insurance Exchange hosted a cocktail party for members of the Medical Society and their guests on Friday evening prior to the Hogwild Party. Mr. Dick Clark, executive vice president, and members of the API staff welcomed all who attended. Appreciation is expressed by the Society to API for this fun hour.

#### **HOGWILD PARTY**

One of the most popular activities of the convention was the Hogwild Party on Friday evening. Red and white attire was encouraged for this party with a Razorback theme. There were a lot of Razorback fans in evidence. Lou Holtz, Razorback Football Coach, presented an inspiring, humorous, entertaining program. After dinner, there was music for dancing by the Doc Sisco Band. Members enjoyed a very pleasant evening.

#### **INAUGURAL CEREMONY**

President Morris M. Henry served as master of ceremonies for the inaugural ceremony on Saturday evening, May 7.





Asa A. Crow takes the oath of office of president of the Arkansas Medical Society.

After a short period for cocktails, Dr. Henry welcomed members and guests to the inauguration of the 108th president of the Arkansas Medical Society. The invocation was by Amail Chudy.

Officers seated on the stage were introduced by Dr. Henry. They included President-elect Asa Crow of Paragould, Chairman of the Council John P. Burge of Lake Village, Secretary Elvin Shuffield of Little Rock, Immediate Past President Purcell Smith, Jr. of Little Rock, Treasurer James M. Kolb, Jr. of Russellville, First Vice President Paul Wallick of Monticello, Second Vice President A. Samuel Koenig of Fort Smith, Third Vice President Gerald Guyer of Stuttgart, Speaker of the House of Delegates Amail Chudy, and Vice Speaker of the House W. P. Phillips of Fort Smith.

Special guests were introduced by President Henry: Mrs. Paul Cornell, President of the Arkansas Medical Society Auxiliary; Mrs. Deno Pappas, President-elect of the State Auxiliary; Mrs. C. Herbert Taylor, Immediate Past President of the State Auxiliary; Mrs. William D. Hughes, President of the Southern Medical Association Auxiliary; Mrs. Wayne Brady, Treas-

urer of the Southern Medical Association Auxiliary; Mrs. Sue Ashlock, President of the State Medical Assistants Society; Mrs. Kathy Davis, President of the Arkansas Licensed Psychiatric Technician Nurses Association; Mrs. Flora Summers, President of the Arkansas State Licensed Practical Nurses Association; and Mrs. Thelma Maples, President of the Sebastian County Licensed Practical Nurses Association.

President Henry announced that Mr. Harvey Jones of Springdale had been chosen by the Public Relations Committee of the Society to receive the first "Special Layman Award." President Henry introduced Mr. Jones and his wife, Bernice, and presented a plaque inscribed as follows:

"The Arkansas Medical Society presents this First Special Layman Award to Harvey Jones of Springdale who has contributed greatly to the development of health care in Arkansas. His time and energies have been dedicated on a voluntary and totally unselfish basis, toward assisting medicine in its pursuit of excellence. May 7, 1983."

Mr. Jones has been instrumental in the development of the Springdale Memorial Hospital. He

has been chairman of the Board since the hospital opened in 1952 and has provided a great deal of financial support to the hospital, as well as giving of his time, interest and effort. Under his leadership, the hospital has grown from its original 36 beds to 205. He has made substantial contributions over the years which enabled the hospital to be in the forefront in the addition of medical services. Some of his contributions enabled the hospital to offer the third coronary care unit to be developed in the State, to obtain the second laser photo coagulator in the State, to offer xeroradiography for mammography studies, and to develop one of the first family-oriented hotel motel facilities located in a hospital in Arkansas. Mr. Jones has maintained a private foundation for 25 years for the purpose of providing scholarships for medical students. He has also provided financial help to physicians beginning practice in Springdale through an investment company he owns. He has been involved in such areas as schools for special children, support of a local Emergency Medical System, and scholarships in a learning program for dyslexia at the College of the Ozarks. Mr. and Mrs. Jones have created a museum in Grove, Oklahoma, which includes one of the most complete primitive and early medicine exhibits in the Southwest. Dr. Henry expressed pleasure in recognizing Mr. Jones for all these many contributions toward the development of medicine in Arkansas and his unselfish work over the years assisting the profession. F. E. McEvoy of Springdale, president of the Washington County Medical Society, and Hugh Means, administrator of the Springdale Memorial Hospital, were present for the presentation of the award to Mr. Jones.

Regina Hopper, Miss Northwest Arkansas, entertained with a selection of musical numbers.

President Henry thanked the membership for allowing him to be president of the Arkansas Medical Society and to represent the profession during the year. He stated that it had been a very good year for himself and Mrs. Henry. He stated that the support and help he received from the physicians and staff made the year a very pleasant one. He expressed special thanks to Dr. Cliff Long, Leah Richmond, Ken LaMastus, Mike Mitchell, Dr. Elvin Shuffield, Dr. James Weber, Dr. Paul Wallick, Jeane Hundley, the staff at the Society headquarters, the Council of the Arkansas Medical Society, and the many mem-

bers who willingly worked when asked to help. Dr. Henry concluded with the following comments: "As the man said as he was leaving the party — I have had a great time and really enjoyed myself; I hate to go, but that is life."

Dr. Crow joined Dr. Henry at the podium and took the oath of office of president of the Arkansas Medical Society.

Dr. Crow introduced members of his family and special guests present. They included his wife, Wanda, and their children — Susan and Greg; his brother-in-law and sister-in-law, Mr. and Mrs. Don Barnes; his partners — Mack Shotts and Lynn Kemp; and Circuit Court Judge and Mrs. Gerald Brown of Paragould. Dr. Crow asked all other physicians from Paragould to stand.

Dr. Crow addressed the membership as follows:

### INAUGURAL ADDRESS

**Asa A. Crow**

I want to review with you tonight two aspects of the practice of medicine, which I have entitled "The Progress and the Predicament of Medicine."

The progress of medicine over the past few years is something we can be proud of. This progress has served two purposes, to improve the quality of life and to lengthen the life span. Mr. Ralph Nader (the well-known consumer advocate) did an extensive study a few years ago on medical care in the United States as compared to other nations. When his report was published, the headlines in the paper read very boldly, "Medical Care in the U. S. Not What It Should Be." However, when one read the article it stated very clearly that medical care in the U. S. is the best in the world, but it could be better. No one disagrees with this statement.

Some of the progress or advances in medical care should be noted. The last case of smallpox in the world was seen in 1977. Parents have little to worry about each summer as far as their children contacting polio. There has been continued improvement in the infant mortality rate in the United States and Arkansas. The rate stands 11.2 per 1,000 live births in the U. S. and 9.9 for Arkansas. There are only some 12 or 13 states with a better record in the U. S. than Arkansas.

Technological progress is great. Some examples are: The C.A.T. scanners will show slices of the body in almost any plan. Xerographs, radioactive isotopes, ultrasound, echograms, and catheter insertion into almost any organ of the



body will render valuable diagnosis. Surgeons using suture machines, lasers and microscopes are commonplace now. Computers not only help keep ledgers and records, but also document patients' conditions and help to diagnosis and treat. The advances and changes in the practice of medicine are fast and constant. We are aware of the recent operations in Memphis where a young boy received two liver transplants in an effort to sustain his life, which would surely end with the diagnosis he had of biliary atresia.

Just as our progress has become more pronounced, our predicament has become more pronounced. The most serious predicament we face today is the fact that someone must pay for all these technological advances. Also, someone must pay when all this technological equipment is used. As the cost of the equipment and the cost of the use of this equipment goes up, the government puts more and more restraints on the use because of the cost.

We do indeed have a problem with the increased cost of medical care. Mostly as a result of this increased expense, we have real threats in the practice of medicine. Most of these threats are a direct result of government trying to lower cost. Some of the ways the government plans to help lower medical care cost is by increasing competition. Now, we are getting an excess of physicians. It is estimated that in 1990, we will have 70,000 physicians more than we need and by the year 2000, we will have an excess of 140,000 physicians. The Federal Trade Commission recently ruled that physicians may solicit patients by advertising, submission of bids, or other means. They have virtually done away with our efforts to expose charlatanism, fraud and abuse in the utilization of facilities and services and the payment thereof. The government is promoting nonphysicians to be in a position to practice medicine. They are backing anyone with any experience in any part of medicine to get into the practice of medicine.

We now have a midwife program in the State of Arkansas, which says the midwives don't have to be trained. I'm not sure they are responsible to anyone, but they can charge a fee. We have a nurse midwife program, which the Medical Society supported, but this support was simply because the program is mandated by the Federal Government.

We are being shot at from every side, we have

physicians' assistants, or extendors, on their own. Nurse practitioners are also on their own. Chiropractors are now being paid by Medicaid and Medicare as well as insurance companies.

We should realize that the privilege to practice medicine is granted by the legislature. The legislature is now granting this privilege to numerous other people, who are ill prepared to practice medicine. It is not logical to think that the solutions which our government is promoting will be effective or reasonable. Most of these ideas to lower cost are propagated and encouraged by well-thinking people, who really don't understand the problems of medicine. Very few physicians are involved in the decision-making process of our government and even less of the practicing physicians are involved.

As physicians, we historically mind our own business and set our goal to practice medicine in the proper environment with appropriate equipment and with the freedom to exercise professional judgment as dictated by our training, the needs of our patients and in good conscience. This is becoming increasingly hard to do with the restraints that are being mandated by the Federal Government. As ethical physicians, we know this is unacceptable.

It is predicted that as the Federal Government dreams up more ideas to restrict physicians, advancements in research and medical care will suffer. As the situation gets bad enough, certain phases of medical care will be rationed. Some care may be prohibited strictly because of cost. In England, if you are elderly and break a hip, you might not get it fixed because some care is already rationed there.

I believe the real culprit in the excessive cost of medical care is the Federal Government. As the government gets more involved, the red tape becomes entangled and physicians and hospitals must spend infinitely more money to untangle the red tape to comply with the regulations and to satisfy the numerous agencies with which we deal. Still only about ten cents on the dollar of tax money is spent on medical care. How much of this is spent on direct patient care is practically impossible to find out. We do know that only 18% of the total tax dollars spent on medical care goes to physicians. If you cut the physicians' fees one half, it would make a very small dent in the total number of dollars spent on medical care. But still, is that too much to spend on medical

care? Our government spends more on the interest on the national debt each year than is spent on medical care. In 1965, when Medicare was enacted, we were told that the cost of medical care would be no more than the cost of a pack of cigarettes today. The government spent more money in the first two weeks of 1983 on medical care than it did the entire year of 1965 when Medicare was enacted.

Organized medicine has been opposed to government intervention long before Medicare. The government was told that paying for medical care would help bankrupt the government, especially if tied to Social Security. Now we are in the process of bailing out Social Security — how many times, five? The physicians are being blamed for the red ink in Medicaid, Medicare, and Social Security.

The answer to these predicaments, of course, is not simple, but one thing we could do is try to influence our politicians to pass laws that would deal with the real needs of medicine rather than based on some political philosophy. It is a disgrace when our State Legislature capitulates to 250 chiropractors and will not listen to 3,000 physicians. The reason they won't listen is that we don't participate in the political process as we should.

Our political representatives are now establishing the criteria for medical care whether we like it or not. They are now saying who can be seen, when and how much the physicians will be paid. Three weeks ago while in Washington, D. C., I asked one of our Congressmen if any pressure was being brought to bear on him, either directly or indirectly, to control physicians' fees. His answer was "no." I asked him if he was aware of any of his colleagues receiving such pressure. Again, the answer was "no." It was his opinion that people who want to make laws pertaining to physicians are those people who do it because of their own bias or personal opinion. Politicians talk, the news media picks up on it, pretty soon public opinion is formed. These opinions may or may not coincide with the facts. Mr. Henry Hyde, a Congressman from Illinois, said that public opinion poles are useless when it comes to certain subjects in government, such as arms control. He said that if you asked the average American what a trident is, he thinks it is a stick of gum.

I strongly believe that continued successful medical care in the U. S. depends on the private

practice of medicine with government taking a lesser role, especially in the field of regulation and administration. The only way we can help to assure this is to become involved politically. I think it is time that we donated money to help elect the people who agree with our principles and help defeat people who disagree with our principles. I believe it is time for us to stand up in one collective voice and tell our representatives and senators that we will support them if we can expect some support in return. If it is not time, then how much longer do we have to wait? What further developments must we expect before it is time? It appears that on the State level, we are always on the defense. I believe it is time to introduce a few bills that will put the non-medical people who want to practice medicine on the defense. They need to be on the defense so that they would have to work harder to get something defeated and not spend so much time getting bills passed so as to allow them to infringe on the medical care field. We absolutely must make a real effort to bring the practicing physicians in this State into active participation of organized medicine and into ARK-PAC. We all have our own different interest groups. We pursue our own goals and generally don't get excited until we can see something is going to affect us directly. I submit to you that it is time we came together with our common thinking and have an overriding goal as well as individual personal goals. We as an organized group can have much more clout.

As the competition for patients builds, we must not yield to merchandising, splintering or infighting. If we do not resolve to become more united, then the politicians and non-medical people will delight in destroying the practice of medicine as we know it. Then we are the losers, but the ultimate losers will be the public that we call our patients.

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Dr. Crow gave special recognition to the past presidents of the Society who were in attendance at the inaugural ceremony. Those present were Purcell Smith, Kemal Kutait, A. E. Andrews, W. Payton Kolb, A. S. Koenig, T. E. Townsend, Ben N. Saltzman, Ross Fowler, H. W. Thomas, C. Randolph Ellis, and Joe Verser.

A plaque of appreciation from the Medical Society was presented to Dr. Henry by Dr. Crow.



Following the inaugural program, the Council hosted a reception for all members. Members enjoyed a lavish display of hot and cold hors d'oeuvres.

### REORGANIZATIONAL MEETING OF THE COUNCIL

Following final adjournment of the House of Delegates, the Council held a brief reorganizational meeting. John P. Burge was re-elected chairman and Alfred Kahn was re-elected editor of the Journal.

### REGISTRATION FIGURES 107th Annual Session

Physicians .....	318
Medical Students, Medical Assistants, Nurses ..	22
Scientific Exhibitors other than Physicians ...	13
Commercial Exhibitors .....	90
Others .....	18
Total .....	461
Auxiliary Registration .....	154



### OFFICERS OF THE ARKANSAS MEDICAL SOCIETY 1983-84

President.....	Asa A. Crow, #1 Medical Drive, Paragould 72450
President-elect.....	Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801
First Vice President.....	Warren Douglas, 260 Medical Towers Bldg., Little Rock 72205
Second Vice President.....	Charles H. Rodgers, 4202 South University, Little Rock 72204
Third Vice President.....	James L. Gardner, 125 Greenwood, Hot Springs 71901
Secretary.....	(Vacancy)
Treasurer.....	James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801
Speaker, House of Delegates.....	Amail Chudy, 1801 Maple, North Little Rock 72114
Vice Speaker of House.....	Paul A. Wallick, 906 Roberts Drive, Monticello 71655
Journal Editor.....	Alfred Kahn, Jr., 1300 West Sixth, Little Rock 72201
Delegates to AMA.....	Joe Verser, Post Office Box 106, Harrisburg 72432
	T. E. Townsend, 1420 West 43rd, Pine Bluff 71603
	A. E. Andrews, Post Office Box 689, Texarkana 75504
Alternates.....	Richard N. Pearson, 6 Halsted Circle, Rogers 72756
	W. Payton Kolb, 230 Medical Towers Bldg., Little Rock 72205
	George W. Warren, Post Office Box W, Smackover 71762

### EXECUTIVE COMMITTEE OF THE COUNCIL

Chairman of the Council.....	John P. Burge, Lake Village Clinic, Lake Village 71653
President .....	Asa A. Crow, #1 Medical Drive, Paragould 72450
President-elect.....	Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801
Secretary.....	(Vacancy)
Immediate Past President.....	Morriss M. Henry, Post Office Box 1727, Fayetteville 72702

# PROCEEDINGS

## COUNCILORS

District	Councilor Term Expires 1984	Councilor Term Expires 1985	Counties in District
1.	J. Larry Lawson #1 Medical Drive Paragould 72150	*Merrill J. Osborne 1533 North 10th Blytheville 72315	Clay, Craighead, Crittenden, Fulton, Greene, Lawrence, Mississippi, Poinsett, Randolph, and Sharp
2.	*John E. Bell 1300 South Main Searcy 72143	Jim E. Lytle P. O. Box 2116 Batesville 72501	Cleburne, Conway, Faulkner, Independence, Izard, Jackson, Stone, and White
3.	*L. J. P. Bell 626 Poplar Helena 72342	John Hestir P. O. Drawer 512 DeWitt 72042	Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis, and Woodruff
4.	*John P. Burge Lake Village Clinic Lake Village 71653	Lloyd G. Langston 1408 West 43rd Pine Bluff 71603	Ashley, Chicot, Desha, Drew, Jefferson, and Lincoln
5.	Cal R. Sanders P. O. Box 757 Camden 71701	*George Warren P. O. Box W Smackover 71762	Bradley, Calhoun, Cleveland, Columbia, Dallas, Ouachita, and Union
6.	James D. Armstrong P. O. Box 637 Ashdown 71822	*F. E. Joyce P. O. Box 2763 Texarkana 75501	Hempstead, Howard, Lafayette, Little River, Miller, Nevada, Pike, Polk, and Sevier
7.	*Ronald J. Bracken 505 West Grand Hot Springs 71901	Edgar K. Clardy 604 Central Tower Hot Springs 71901	Clark, Garland, Grant, Hot Spring, Montgomery, and Saline
8.	William N. Jones (1984) 500 S. University Little Rock 72205  Frank E. Morgan (1984) 410 Pershing Blvd. No. Little Rock 72114	Harold Pindy (1981) 6924 Geyer Springs Rd. Little Rock 72209	*W. Ray Jouett (1985) 750 Medical Towers Bldg. Little Rock 72205  Charles Logan (1985) 500 South University Little Rock 72205
9.	*Rhys A. Williams P. O. Box 1118 Harrison 72601	Richard N. Pearson 6 Halsted Circle Rogers 72756	Baxter, Benton, Boone, Carroll, Madison, Marion, Newton, Searcy, Van Buren, and Washington
10.	*Ken Lilly 1120 Lexington Fort Smith 72901	W. P. Phillips P. O. Box 3507 Fort Smith 72913	Crawford, Franklin, Johnson, Logan, Perry, Pope, Scott, Sebastian, and Yell

\*Senior Councilor





# COMMITTEES — ARKANSAS MEDICAL SOCIETY — 1983-1984

## COMMITTEES APPOINTED BY SOCIETY PRESIDENT

	Term Expires		Term Expires
<b>COMMITTEE ON CANCER CONTROL</b>			
Robert Brausford, 300 East Sixth, Texarkana 75502	1984	Jerry Holton, 500 South University, Little Rock 72205	1984
David Barclay, 500 South University, Little Rock 72205	1981	W. P. (Pat) Phillips, P. O. Box 3507, Fort Smith 72913	1985
Richard Babaian, 4301 West Markham, Slot 540, Little Rock 72201	1984	Kelly Meyer, P. O. Box 1597, Russellville 72801	1985
Ronald D. Hardin, 960 Medical Towers Building, Little Rock 72205 — <i>CHAIRMAN</i>	1981	Charles H. Rodgers, 4202 South University, Little Rock 72204	1985
Michael C. Reese, 1110 West Elm, Rogers 72756	1984	W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205 — <i>CHAIRMAN</i>	1986
Jean C. Gladden, P. O. Box 1118, Harrison 72601	1985	George W. Warren, P. O. Box "W", Smackover 71762	1986
James Bledsoe, 6 Halsted Circle, Rogers 72756	1985	<b>COMMITTEE ON PUBLIC HEALTH</b>	
Jerry Morgan, Route 1, Box 21-D, Stuttgart 72160	1985	William C. Whaley, Jr., 205 East Church, Warren 71671	1984
Peyton E. Rice, 2000 Fendley Drive, North Little Rock 72114	1985	Wilbur G. Lawson, 207 East Dickson, Fayetteville 72701	1984
John K. Sigler, 923 Lexington, Fort Smith 72901	1985	John A. Hall, P. O. Box 310, Clinton 72031	1984
<b>COMMITTEE ON MEDICAL LEGISLATION</b>		Walter Shriner, 8 DeSoto Center, Hot Springs Village 71909	1984
James R. Weber, P. O. Box 188, Jacksonville 72076 — <i>CHAIRMAN</i>	1984	Ben N. Saltzman, 4815 West Markham, Little Rock 72205	1985
Joe Verser, P. O. Box 106, Harrisburg 72432	1984	Rex Ramsay, P. O. Box 300, Bauxite 72011	1985
Boyce West, P. O. Box 220, Clarksville 72830	1984	R. Steve Venable, 6917 Geyer Springs Road, Little Rock 72209	1985
Calvin Bracy, 1301 West 43rd, Pine Bluff 71603	1984	Don Howard, 110 Clifton, Fordyce 71742 — <i>CHAIRMAN</i>	1986
Don Howard, 110 North Clifton, Fordyce 71742	1984	<b>SUB-COMMITTEE ON MATERNAL AND CHILD WELFARE</b>	
Kelly Meyer, P. O. Box 1597, Russellville 72801	1984	Robert H. Fiser, Jr., 1721 Maryland, Little Rock 72202 — <i>CHAIRMAN</i>	1984
Walter Shriner, 8 DeSoto Center, Hot Springs Village 71909	1984	Calvin Bracy, 1301 West 43rd, Pine Bluff 71603	1984
Robert F. McCrary, 505 West Grand, Hot Springs 71901	1985	Rufus Thrower, Jr., 1306 Wright Avenue, Little Rock 72206	1984
William F. Dudding, 3104 Executive Park, Fort Smith 72903	1985	E. A. Shanelyelt, P. O. Box 630, Manila 72442	1985
Ralph E. Joseph, Highway 25 West, Walnut Ridge 72476	1985	Rex Ramsay, P. O. Box 300, Bauxite 72011	1985
Jerry Morgan, Route 1, Box 21-D, Stuttgart 72160	1985	Lance D. Whaley, 671 Oakland, Helena 72342	1985
Morriss M. Henry, P. O. Box 1727, Fayetteville 72702	1986	W. Wayne Workman, 527 North 6th, Blytheville 72315	1985
Charles H. Rodgers, 4202 South University, Little Rock 72204	1986	<b>COMMITTEE ON CONTINUING MEDICAL EDUCATION</b>	
Ex-Officio Member: Mrs. Asa Crow, 1600 White Drive, Paragould 72450 (Auxiliary Legislative Chairman)		Sybil Hart, P. O. Box 312, Blytheville 72315	OS 1984
<b>SUB-COMMITTEE ON NATIONAL LEGISLATION</b>		Tom Bell, P. O. Box 1116, Harrison 72601	AC, ACS 1984
Richard N. Pearson, #6 Halsted Circle, Rogers 72756	1981	John M. Hestir, P. O. Drawer 512, DeWitt 72012	FP 1985
James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	1984	David Barclay, 500 South University, Little Rock 72205	OS 1985

# PROCEEDINGS

	Term Expires		Term Expires
Thomas A. Bruce, 4301 West Markham, Little Rock 72201	UACM 1986	J. Larry Lawson, #1 Medical Drive, Paragould 72450	1984
J. Larry Lawson, #1 Medical Drive, Paragould 72450 — <i>CHAIRMAN</i>	1986	Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801	1984
Allan S. Pirniquie, 714 West Faulkner, El Dorado 71730	ACP 1986	SUB-COMMITTEE ON STATE HEALTH AND MEDICAL RESOURCES FOR CIVIL DEFENSE	
Leslie F. Anderson, 1310 North Center, Lonoke 72086	AAFP 1986	Alvin Strauss, Jr., 1026 Donaghey Building, Little Rock 72201	1984
COMMITTEE ON HOSPITALS		Tom Eans, 1709 West Main, Heber Springs 72543	1984
Paul N. Means, 10825 Financial Centre Parkway, Little Rock 72205	1984	Walter Shriner, 8 DeSoto Center, Hot Springs Village 71909	1984
John D. Wright, 321 Short Street, Benton 72015	1984	Glen V. Dalrymple, 1100 Medical Towers Building, Little Rock 72205	1985
Don Howard, 110 North Clifton, Fordyce 71742	1984	Charles H. Rodgers, 4202 South University, Little Rock 72204 — <i>CHAIRMAN</i>	1985
Robert B. Benafield, 601 Gaines, Little Rock 72203 — <i>CHAIRMAN</i>	1985	Joe H. Stallings, 417 East Matthews, Jonesboro 72401	1986
G. Max Thorn, St. Vincent Infirmary, Little Rock 72201	1985	SUB-COMMITTEE ON LIAISON WITH VOCATIONAL REHABILITATION	
Rhys A. Williams, P. O. Box 1118, Harrison 72601	1985	W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205	1984
Ralph G. Kramer, 603 Lexington, Fort Smith 72901	1985	Thomas M. Durham, Jr., 505 West Grand, Hot Springs 71901	1984
Richard O. Martin, P. O. Box 339, Paragould 72450	1986	Karlton H. Kemp, 408 Hazel, Texarkana 75502	1985
COMMITTEE ON PUBLIC RELATIONS		Ramon Lopez, 1902 McLain, Newport 72112	1985
A. C. Bradford, P. O. Box 3528, Fort Smith 72913	1984	Robert D. Miller, Jr., 616 Elm Street, Helena 72342 — <i>CHAIRMAN</i>	1986
Eugene F. Still, 11, 1500 Dodson, Fort Smith 72901	1984	T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1986
Frank Edmisten, Jefferson Regional Medical Center, Pine Bluff 71603	1984	ANNUAL SESSION COMMITTEE	
J. E. McDonald, 461 East Township, Fayetteville 72701	1984	Thomas A. Bruce, 4301 West Markham, Little Rock 72201	1984
T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1985	Kelsy Caplinger, 11215 Hermitage, Little Rock 72211	1984
Raymond V. Biondo, P. O. Box 921, North Little Rock 72115	1985	John H. Delamore, P. O. Box 351, Fordyce 71742	1984
Charles Logan, 500 South University, Little Rock 72205	1985	Charles H. Rodgers, 4202 South University, Little Rock 72204 — <i>CHAIRMAN</i>	1984
Rufus Thrower, Jr., 1306 Wright Avenue, Little Rock 72206	1985	W. Ely Brooks, Route 9, Box 219, Fayetteville 72701	1984
Milton D. Deneke, P. O. Box 687, West Memphis 72301 — <i>CHAIRMAN</i>	1986	Richard O. Martin, P. O. Box 339, Paragould 72450	1985
Ex-Officio Members:		Ken Lilly, 1120 Lexington, Fort Smith 72901	1985
Mrs. Paul Cornell, 44 River Ridge, Little Rock 72207 (Auxiliary President)		J. Larry Lawson, #1 Medical Drive, Paragould 72450	1985
Mrs. Jerry Blaylock, 2210 Twin Oaks, Jonesboro 72401 (Auxiliary PR Committee Chairman)		Robert Casali, 200 Medical Towers Building, Little Rock 72205	1985
SUB-COMMITTEE ON LIAISON WITH AUXILIARY		Ex-Officio Member:	
Asa Crow, #1 Medical Drive, Paragould 72450 — <i>CHAIRMAN</i>	1984	Mrs. Frank Morgan, 20 Heritage Park Circle, North Little Rock 72116 (Auxiliary Convention Chairman)	
Paul J. Cornell, 500 South University, Little Rock 72205	1984	COMMITTEE ON INSURANCE	
Milton D. Deneke, P. O. Box 687, West Memphis 72301	1984	Banks Blackwell, P. O. Box 1406, Pine Bluff 71613	1984



# PROCEEDINGS

	Term Expires		Term Expires
Carl L. Wilson, 1500 Dodson, Fort Smith 72901	1984	William Joe James, P. O. Box 1019, Pine Bluff 71613	1984
Eugene F. Still, II, 1500 Dodson, Fort Smith 72901	1984	David Gibbons, P. O. Box 136, Ozark 72949	1984
Tom Eans, 1709 West Main, Heber Springs 72543	1984	David D. Fried, Ronte 3, Box 194, Mena 71953	1985
Guy Farris, 6213 Lee Avenue, Little Rock 72205	1985	Henry H. Good, #1 St. Vincent Circle, Suite #340, Little Rock 72205	1985
James F. Thomas, Southgate Place, Jonesboro 72401	1985	George Regnier, 500 South University, Little Rock 72205	1985
Peter Irwin, 1500 Dodson, Fort Smith 72901	1985	<b>COMMITTEES APPOINTED BY COUNCIL</b>	
Rhys A. Williams, P. O. Box 1118, Harrison 72601	1985	<b>COMMITTEE ON POSITION PAPERS</b>	
Charles F. Wilkins, Jr., 3105 W. Main Place, Russellville 72801 — <i>CHAIRMAN</i>	1986	James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801 — <i>CHAIRMAN</i>	1984
Mr. Ben Jensen, Holt-Krock Clinic, 1500 Dodson, Forth Smith 72901 (Advisory)		Neil Sims, 4301 West Markham, Little Rock 72201	1984
<b>COMMITTEE ON MEDICINE AND RELIGION</b>		George W. Warren, P. O. Box W, Smackover 71762	1984
C. R. Ellis, 1004 South Main, Malvern 72104	1984	W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205	1984
Randolph Murphy, 708 West Second, Little Rock 72212	1984	James R. Weber, P. O. Box 188, Jacksonville 72076	1984
George Schroeder, 260 Doctors Park Building, Little Rock 72205	1984	Thomas A. Bruce, 4301 West Markham, Little Rock 72201	1984
Milton D. Deneke, P. O. Box 687, West Memphis 72301	1984	Carl J. Raque, 500 South University, Little Rock 72205	1985
John Miller, P. O. Box 851, Hampton 71744	1985	David Bnsby, 100 South 14th, Fort Smith 72901	1985
James O. Pennington, P. O. Box 68, Ola 72853	1985	T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1985
Ronald D. Hardin, 960 Medical Towers Building, Little Rock 72205	1985	Richard N. Pearson, 6 Halsted Circle, Rogers 72756	1985
Walter H. O'Neal, 9601 Interstate 630, Little Rock 72201 — <i>CHAIRMAN</i>	1986	Willis Stevens, 460 West Oak, El Dorado 71730	1985
<b>COMMITTEE ON AGING</b>		Lloyd Langston, 1408 West 43rd, Pine Bluff 71603	1986
Woodbridge Morris, 310 Ridgeway, Little Rock 72205	1984	Paul Cornell, 500 South University, Little Rock 72205	1986
James Patrick, 211 West Spring, Fayetteville 72701	1984	Kemal Kutait, 1120 Lexington, Fort Smith 72901	1986
E. Clinton Texter, 4301 West Markham, Slot 567, Little Rock 72201	1984	<b>BUDGET COMMITTEE</b>	
Carlos A. Araoz, #1 St. Vincent Circle, Suite 220, Little Rock 72205	1984	Asa A. Crow, #1 Medical Drive, Paragould 72450	1983
Chalmers S. Pool, 3925 North Lookout, Little Rock 72205	1985	John M. Hestir, P. O. Drawer 512, DeWitt 72042 — <i>CHAIRMAN</i>	1984
Morton C. Wilson, 1500 Dodson, Fort Smith 72901	1985	Jim E. Lytle, P. O. Box 2116, Batesville 72501	1985
Frances Rothert, Benedictine Manor, Hot Springs 71901	1985	F. E. Joyce, P. O. Box 2763, Texarkana 75501	1986
Tom Eans, 1709 West Main, Heber Springs 72543	1985	James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	Automatic as Treasurer
Henry V. Kirby, 825 North Spring, Harrison 72601 — <i>CHAIRMAN</i>	1986	<b>COMMITTEE ON CONSTITUTIONAL REVISION</b>	
<b>COMMITTEE ON MENTAL HEALTH</b>		A. S. Koenig, Jr., 923 Lexington, Fort Smith 72901 — <i>CHAIRMAN</i>	
Aubrey C. Smith, #1 St. Vincent Circle, #260, Little Rock 72205 — <i>CHAIRMAN</i>	1984	J. Warren Murry, P. O. Drawer A, Fayetteville 72702	
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205	1984		

Nathan L. Poff, P. O. Box 1111,  
Heber Springs 72513

**MEDICAL SCHOOL COMMITTEE**

James L. Gardner, 125 Greenwood,  
Hot Springs 71901 — *CHAIRMAN*  
Kemal Kutait, 1120 Lexington,  
Fort Smith 72901

Boyce West, P. O. Box 220,  
Clarksville 72830

Max G. Cheney, P. O. Box 725,  
Mountain Home 72653

R. Jerry Mann, 6921 Geyer Springs Road,  
Little Rock 72209

**LIAISON COMMITTEE WITH  
STATE WELFARE DEPARTMENT**  
(Composed of Executive Committee)

**AD HOC COMMITTEE TO EXECUTIVE  
COMMITTEE ON LIAISON WITH STATE  
DEPARTMENTS OF HEALTH AND  
HUMAN SERVICES**

Larry D. Wright, P. O. Box 1000,  
Rogers 72756 — *CHAIRMAN*  
Milton D. Dencke, P. O. Box 687,  
West Memphis 72301  
George W. Warren, P. O. Box W,  
Smackover 71762  
Michael N. Moody, P. O. Box 829,  
Salem 72576

**LONG RANGE PLANNING COMMITTEE**

Lloyd Langston, 1108 West 43rd,  
Pine Bluff 71603  
John E. Bell, 1300 South Main,  
Searcy 72143 — *CHAIRMAN*  
James R. Weber, P. O. Box 188,  
Jacksonville 72076  
Mahlon O. Maris, Post Office Box 1597,  
Harrison 72601  
James M. Kolb, Jr., 305 Skyline Drive,  
Russellville 72801

**PHYSICIAN-NURSE JOINT PRACTICE COMMITTEE**

Jerry Holton, 500 South University,  
Little Rock 72205  
A. F. Gillespie, 500 South University,  
Little Rock 72205  
Charles W. Logan, 500 South University,  
Little Rock 72205  
Kemal Kutait, 1120 Lexington,  
Fort Smith 72901  
Charles F. Wilkins, 3105 West Main Place,  
Russellville 72801 — *CHAIRMAN*

**AD HOC COMMITTEE ON JOURNAL ADVERTISING**

Raymond A. Irwin, Jr., 1220 West 42nd,  
Pine Bluff 71603 — *CHAIRMAN*  
W. Payton Kolb, 230 Medical Towers Building,  
Little Rock 72205  
F. E. Joyce, P. O. Box 2763,  
Texarkana 75504

**COMMITTEE ON MEDICINE-BUSINESS  
LIAISON**

Purcell Smith, P. O. Box 5675,  
Little Rock 72215 — *CHAIRMAN*

F. E. Joyce, P. O. Box 2763,  
Texarkana 75504

Charles W. Logan, 500 South University,  
Little Rock 72205

Cal R. Sanders, P. O. Box 757,  
Camden 71701

Kemal Kutait, 1120 Lexington,  
Fort Smith 72901

Lloyd G. Langston, 1408 West 43rd,  
Pine Bluff 71603

Larry Lawson, #1 Medical Drive,  
Paragould 72450

**IMPAIRED PHYSICIANS COMMITTEE**

Lee B. Parker, Jr., 241 West Spring,  
Fayetteville 72701  
Aubrey C. Smith, #1 St. Vincent Circle, Suite 260,  
Little Rock 72205 — *CHAIRMAN*  
Glen F. Baker, 4301 West Markham,  
Little Rock 72201  
B. P. Raney, 103 East Matthews,  
Jonesboro 72401  
W. Ray Jouett, 750 Medical Towers Building,  
Little Rock 72205  
J. L. Martindale, 302 West South,  
Benton 72015

**COUNCIL APPOINTED  
BOARDS AND COMMISSIONS**

**ARKANSAS MEDICAL SOCIETY,  
PENSION PLAN TRUSTEES**

George F. Wynne, 113 West Cypress, Warren 71671	Term Expires April  1984
Kemal Kutait, 1120 Lexington, Fort Smith 72901 — <i>CHAIRMAN</i>	1985
James R. Weber, P. O. Box 188, Jacksonville 72076	1986
Charles Logan, 500 South University, Little Rock 72205	1987
James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	Automatic as Treasurer
Ex-Officio Member: C. C. Long, P. O. Box 1208, Fort Smith 72902	

**MEDICAL EDUCATION FOUNDATION  
FOR ARKANSAS**

Jean Gladden, P. O. Box 1118, Harrison 72601 — <i>Secretary</i>	Term Expires August  1983
Martin Eisele, 101 Whittington, Hot Springs 71901 — <i>President</i>	1984
Joe F. Rushton, 219 North Washington, Magnolia 71753	1985
Amail Chudy, 1801 Maple, North Little Rock 72114 — <i>Vice President</i>	1986
<b>EX-OFFICIO (with voting power)</b> Asa A. Crow, #1 Medical Drive, Paragould 72450 (President, AMS) Charles Wilkins, 3105 West Main Place, Russellville 72801 (President-elect, AMS)	



# PROCEEDINGS

Morriss M. Henry, P. O. Box 1727,  
Fayetteville 72702 (Immediate Past President, AMS)  
Thomas A. Bruce, 4301 West Markham,  
Little Rock 72201 (Dean, University of Arkansas  
College of Medicine)

ARKANSAS STATE ARBITRATION COMMISSION (Society Representatives)		Term Expires April
District		
1	Milton D. Deneke, P. O. Box 687, West Memphis 72301	1987
2	Kenneth Meacham, 1300 South Main, Searcy 72113	1986
3	Dwight Gray, 110 West Chestnut, Marianna 72360	1986
4	Banks Blackwell, P. O. Box 1406, Pine Bluff 71613	1987
5	Ernest Hartman, 619 West Grove, El Dorado 71730	1984
6	Joe D. King, P. O. Box 549, Nashville 71852	1985
7	Thomas M. Durham, 505 West Grand, Hot Springs 71901	1987
8	H. Austin Grimes, P. O. Box 5270, Little Rock 72215 — <i>CHAIRMAN</i>	1987
9	John W. Vinzant, 22 East Spring, Fayetteville 72701	1984
10	James Maupin, P. O. Box 337, Dardanelle 72834	1985

## ARKANSAS MEDICAL SOCIETY POLITICAL ACTION COMMITTEE

J. Larry Lawson, #1 Medical Drive,  
Paragould 72450 — *CHAIRMAN*  
Charles H. Rodgers, 4202 South University,  
Little Rock 72204 — *SECRETARY-TREASURER*  
John Crenshaw, 4201 Mulberry,  
Pine Bluff 71603  
Robert Miller, 616 Elm,  
Helena 72342  
Ken Lilly, 1120 Lexington,  
Fort Smith 72901

James M. Kolb, Jr., 305 Skyline Drive,  
Russellville 72801  
A. Samuel Koenig, III, 923 Lexington,  
Fort Smith 72901  
Milton D. Deneke, P. O. Box 687,  
West Memphis 72301  
John M. Hestir, P. O. Drawer 512,  
DeWitt 72042  
Bobby McKee, 505 East Matthews,  
Jonesboro 72401  
Mrs. Herbert Taylor, 211 Tournament,  
West Memphis 72301  
Mrs. Charles F. Wilkins, 214 Durant Drive,  
Russellville 72801  
Mrs. Jack Burge, Route 1, Box 338,  
Lake Village 71653  
Mrs. C. Lynn Harris, 1516 Wilson Drive,  
Hope 71801

## COMMITTEES ELECTED BY THE HOUSE OF DELEGATES

### NOMINATING COMMITTEE

Councilor District	Term Expires April 1981
1 Sybil R. Hart, P. O. Box 312, Blytheville 72315	
2 Ramon E. Lopez, 1902 McClain, Newport 72112	
3 John M. Hestir, P. O. Drawer 512, DeWitt 72042	
4 Danny L. Berry, P. O. Box 788, Lake Village 71653	
5 George W. Warren, P. O. Box W, Smackover 71762	
6 A. E. Andrews, P. O. Box 689, Texarkana 75504	
7 William R. Mashburn, 99 Little Pine, Hot Springs 71901	
8 Paul J. Cornell, 500 South University, Little Rock 72205	
9 Wade W. Burnside, 207 East Dickson, Fayetteville 72701	
10 W. P. Phillips, P. O. Box 3507, Fort Smith 72913 — <i>CHAIRMAN</i>	



## MEDICAL SERVICES REVIEW COMMITTEE

Term Expires April 30	Committee Members (Name and Address)	Specialty Represented	Term Expires April 30	Committee Members (Name and Address)	Specialty Represented
1984	Charles H. Rodgers, 4202 South University, Little Rock 72204 — <i>Vice Chairman</i>	Fam. Pr.	1984	J. Larry Lawson, #1 Medical Drive, Paragould 72450	Surgery
1985	Ken Lilly, 1120 Lexington, Fort Smith 72901	Fam. Pr.	1986	Glenn P. Schoettle, 308 South Rhodes, West Memphis 72301	Surgery
1985	Robert Etherington, 41 Kingshighway, Eureka Springs 72632	Fam. Pr.	1985	George V. Roberson, 1801 West 40th, Pine Bluff 71603	Surgery
1984	David Crittenden, 100-A East Poplar, Fayetteville 72701	Int. Med.	1986	Vida H. Gordon, 9501 North Rodney Parham, Little Rock 72207	Allergy
1985	John Crenshaw, 4201 Mulberry, Pine Bluff 71603	Int. Med.	1985	Jim Porter, P. O. Box D, Benton 72015	Anes.

# PROCEEDINGS

Term Expires	Committee Members (Name and Address)	Specialty Represented	Term Expires	Committee Members (Name and Address)	Specialty Represented
April 30			April 30		
1986	William W. Galioway, 1602 West Main, Russellville 72801	Derm.	—	Asa A. Crow, #1 Medical Drive, Paragould 72450	(President)
1986	Dwayne L. Ruggles, 520 West 26th, North Little Rock 72114	Oto.	—	(Vacancy in position of Secretary)	
1986	Mitchell Singleton, P. O. Box 908, Fayetteville 72702	Oph.	—	John P. Burge, Lake Village Clinic, Lake Village 71653	(Council Chairman)
1984	David L. Barclay, 500 South University, Little Rock 72205	Ob-Gyn	—	Morriss M. Henry, P. O. Box 1727, Fayetteville 72702	(Immediate Past President)
1985	Robert Watson, 30 Edgehill, Little Rock 72207	Neurosurgery	SUB-COMMITTEE OF SUB-SPECIALTIES (Representatives on call to meet with Committee as needed when claims in specialty field are considered)		
1985	Warren M. Douglas, 260 Medical Towers Bldg., Little Rock 72205	Psychiatry	Carl L. Williams, 522 South 16th, Fort Smith 72901	Thoracic Surgery	
1981	John Trieschmann, P. O. Box 2458, Hot Springs 71913	Pediatrics	Thomas J. Smith, 409 North University, Little Rock 72205	Gastroenterology	
1986	A. E. Andrews, P. O. Box 689, Texarkana 75504	Radiology	Thomas H. Allen, 413 North University, Little Rock 72205	Plastic Surgery	
1984	John D. McConnell, 500 South University, Little Rock 72205	Pathology	John C. Schultz, 10001 Lile Drive, Little Rock 72205	Pulmonary Dis.	
1981	Peter J. Irwin, 1500 Dodson, Fort Smith 72901	Orthopedics	Kelsy J. Caplinger, III, 11215 Hermitage Road, Ste. 104, Little Rock 72211	Pediatric Allergy	
1985	Hal R. Black, Jr., 200 Doctors Park Bldg., Little Rock 72205	Urology	G. Doyne Williams, #1 St. Vincent Circle, Ste. 330, Little Rock 72205	Cardiovascular Surgery	
—	Charles F. Wilkins, Jr., 3105 West Main Place, Russellville 72801	(Chairman)	Robbie R. Atkinson, D.D.S., 1801 West 40th, 2-A, Pine Bluff 71601	Oral Surgery	



## 1983 OFFICERS — COUNTY MEDICAL SOCIETIES — ARKANSAS MEDICAL SOCIETY

ARKANSAS	Pres.—Gerald L. Guyer, Route 1, Box 21-D, Stuttgart 72160 Secy.—Gerald L. Guyer, Route 1, Box 21-D, Stuttgart 72160
ASHLEY	Pres.—Donald L. Toon, 315 North Alabama, Crossett 71635 Secy.—James D. Rankin, Post Office Box 232, Hamburg 71646
BAXTER	Pres.—Robert L. Baker, #10 Medical Plaza, Mountain Home 72653 Secy.—Peter MacKercher, Post Office Box 634, Mountain Home 72653 Asst. Secy.—Julia Short, 126 West Sixth, Mountain Home 72653
BENTON	Pres.—Michael R. Platt, Post Office Box 86, Gravette 72736 Secy.—G. Bruce Waldou, Post Office Box 1000, Rogers 72756
BOONE	Pres.—Thomas E. Bell, Post Office Box 1116, Harrison 72601 Secy.—Alice R. Laule, 715 West Sherman, Harrison 72601
BRADLEY	Pres.—William C. Whaley, 205 East Church, Warren 71671 Secy.—George F. Wynne, 113 West Cypress, Warren 71671
CHICOT	Pres.—P. Sinlaratana, 2420 North Highway 65, Eudora 71640 Secy.—Tom Tvedten, Lake Village Clinic, Lake Village 71653
CLARK	Pres.—N. R. Ritter, 3004 West Pine, Arkadelphia 71923 Secy.—James D. Russell, 3004 West Pine, Arkadelphia 71923
CLEBURNE	Pres.—W. J. Ashabrunner, Post Office Box 1111, Heber Springs 72543 Secy.—Nita B. Oglesby, 421 South 7th, Heber Springs 72543
COLUMBIA	Pres.—John L. Ruff, 104 Hospital Road, Magnolia 71753 Secy.—Robert W. Hunter, Jr., Magnolia Hospital, Magnolia 71753
CONWAY	Pres.—Keith M. Lipsmeyer, Post Office Box 677, Morrilton 72110 Secy.—Robert G. Bishop, Post Office Box 256, Morrilton 72110



# PROCEEDINGS

CRAIG-HEAD-POINSETT	Pres.—Joe Stallings, 417 East Matthews, Jonesboro 72401 Secy.—Glenn Sears, 924 South Main, Jonesboro 72401
CRAWFORD	Pres.—David B. Sills, Post Office Box 16, Mountainburg 72946 Secy.—Millard C. Edds, 1103 Chestnut, Van Buren 72956
CRITTENDEN	Pres.—Gilbert D. Jay, III, 200 South Rhodes, West Memphis 72301 Secy.—Keith B. Kennedy, 316 Tyler, West Memphis 72301
CROSS	Pres.—Willard G. Burks, Post Office Box 158, Wynne 72396 Secy.—Vance J. Crain, Post Office Box 158, Wynne 72396
DALLAS	Pres.—Hugh A. Nutt, 110 North Clifton, Fordyce 71742 Secy.—Don G. Howard, 110 North Clifton, Fordyce 71742
DESHA	Pres.—Guy U. Robinson, 207 South Elm, Dumas 71639 Secy.—Howard R. Harris, 207 South Elm, Dumas 71639
DREW	Pres.—Paul A. Wallick, 906 Roberts Drive, Monticello 71655 Asst. Secy.—Betty Evans, Post Office Box 538, Monticello 71655
FAULKNER	Pres.—Bob G. Banister, 923 Parkway, Conway 72032 Secy.—Bob G. Banister, 923 Parkway, Conway 72032
FRANKLIN	Pres.—Rebecca Ewing, 604 West Commercial, Ozark 72949 Secy.—Thomas C. Jefferson, Post Office Box 1057, Ozark 72949
GARLAND	Pres.—Robert F. McCrary, 505 West Grand, Hot Springs 71901 Secy.—Robert B. Clark, 211 Hobson, Hot Springs 71913 Asst. Secy.—Mary Payne, 911 West Grand, Hot Springs 71913
GRANT	Pres.—Jack M. Irvin, 205 West High, Sheridan 72150 Secy.—Clyde D. Paulk, Post Office Box 307, Sheridan 72150
GREENE-CLAY	Pres.—Jon D. Collier, #5 Market Place, Paragould 72450 Secy.—Robert B. White, #1 Medical Drive, Paragould 72450
HEMPSTEAD	Pres.—Asa M. Warmack, Post Office Box 687, Hope 71801 Secy.—R. Craig Davis, 405 West 16th, Hope 71801
HOT SPRING	Pres.—N. B. Kersh, 1518 McBee, Malvern 72104 Secy.—Bruce A. White, 1002 Schneider Drive, Malvern 72104
HOWARD-PIKE	Pres.—Joe D. King, Post Office Box 549, Nashville 71852 Secy.—Samuel W. Peebles, 120 West Sybert, Nashville 71852
INDEPENDENCE	Pres.—Charles H. Day, Post Office Box 2116, Batesville 72501 Secy.—David Kauffman, 501 Virginia Drive, Batesville 72501
JACKSON	Pres.—Fran L. Duke, Post Office Box 130, Newport 72112 Secy.—M. A. Chanhan, Post Office Box 605, Newport 72112
JEFFERSON	Pres.—R. A. Irwin, 1220 West 42nd, Pine Bluff 71603 Secy.—H. M. Hegwood, Post Office Box 7863, Pine Bluff 71611 Exec. Secy.—Maggi Wadsworth, 1515 West 42nd, Pine Bluff 71603
JOHNSON	Pres.—John McAnley, Post Office Box 668, Clarksville 72830 Secy.—Richard E. McKelvey, Post Office Box 440, Clarksville 72830
LAFAYETTE	Pres.—Craig E. Ditsch, Post Office Box 276, Stamps 71860 Secy.—Craig E. Ditsch, Post Office Box 276, Stamps 71860
LAWRENCE	Pres.—Ted S. Lancaster, Post Office Box 719, Walnut Ridge 72476 Secy.—J. B. Elders, Post Office Box 595, Walnut Ridge 72476
LEE	Pres.—E. C. Fields, 77 West Main, Marianna 72360 Secy.—E. C. Fields, 77 West Main, Marianna 72360
LITTLE RIVER	Pres.—James D. Armstrong, Post Office Box 637, Ashdown 71822 Secy.—John A. Gillean, Post Office Box 818, Ashdown 71822
LOGAN	Pres.—James T. Smith, Post Office Box 286, Paris 72855 Secy.—John R. Williams, Post Office Box 110, Booneville 72927
LONOKE	Pres.—Joe A. Abrams, Post Office Box 993, Cabot 72023 Secy.—Byron E. Holmes, 305 West Front, Lonoke 72086

# PROCEEDINGS

MILLER	Pres.—Jerry B. Stringfellow, 1205 East 35th, Texarkana 75502 Secy.—Gerald Druff, 300 East 6th, Texarkana 75502 Exec. Secy.—Arlene Rushan, Post Office Box 1843, Texarkana 75501
MISSISSIPPI	Pres.—Harvey C. Harmon, Tenth and Highland, Blytheville 72315 Secy.—Eldon Fairley, Post Office Box 68, Osceola 72370
MONROE	Pres.—N. C. David, 108 West Ash, Brinkley 72021 Secy.—L. T. Gates, 112 North New York, Brinkley 72021
NEVADA	Pres.—H. Blake Crow, 327 East Second, Prescott 71857 Secy.—Michael C. Young, 301 Hale Avenue, Prescott 71857
OUACHITA	Pres.—Danny A. Martin, 416 Hospital Drive, S.W., Camden 71701 Secy.—L. V. Ozment, Post Office Box 757, Camden 71701
PHILLIPS	Pres.—J. H. Barrow, 614 Oakland, Helena 72342 Secy.—L. J. Pat Bell, 626 Poplar, Helena 72342
POLK	Pres.—Michael H. Baldwin, Wilhelmina Medical Center, Mena 71953 Secy.—David D. Fried, Route 3, Box 194, Mena 71953
POPE	Pres.—Sandra Young, 1800 West Main, Russellville 72801 Secy.—W. Ernest King, Jr., 3105 West Main Place, Russellville 72801
PULASKI	Pres.—Kelsy J. Caplinger, 11215 Hermitage Road, #104, Little Rock 72211 Secy.—Fred O. Henker, III, 4301 West Markham, Little Rock 72201 Exec. Secy.—Paul Harris, 500 South University, #311, Little Rock 72205
RANDOLPH	Pres.—Richard J. Lombardo, Highway 90, Country Club Road, Pocahontas 72455 Secy.—W. W. Scott, Post Office Box 466, Pocahontas 72455
SALINE	Pres.—Robert Ashby, 815 North East, Benton 72015 Secy.—C. Ted Hood, 205 Carpenter, Benton 72015 Asst. Secy.—Sue McCutcheons, c/o Saline Memorial Hospital, Northeast at McNeil, Benton 72015
SEBASTIAN	Pres.—Harry P. McDonald, 2044 North 29th, Fort Smith 72904 Secy.—Gene Girkin, 923 Lexington, Fort Smith 72901 Asst. Secy.—Betty Stipsky, 4417 South 30th, Fort Smith 72901
SEVIER	Pres.—Kevin R. Carlson, North 4th and Heynecker, DeQueen 71832 Secy.—David E. Stearns, Highway 70 West, DeQueen 71832 Exec. Secy.—Mr. Jim E. Pearce, Highway 70 West, DeQueen 71832
ST. FRANCIS	Pres.—E. Morgan Collins, 1801 Lindauer Road, Forrest City 72335 Secy.—Christopher Woollam, 318 East Cook, Forrest City 72335
TRI-COUNTY	Pres.—Robert C. Lane, Post Office Box 617, Calico Rock 72519 Secy.—Martin P. Meisenheimer, Post Office Box 1067, Cherokee Village 72525
UNION	Pres.—George Smith, 704 West Grove, El Dorado 71730 Secy.—Richard C. Pillsbury, 423 Thompson, El Dorado 71730
VAN BUREN	Pres.—Charles G. Pearce, Post Office Box 51, Clinton 72031 Secy.—John A. Hall, Post Office Box 310, Clinton 72031
WASHINGTON	Pres.—F. E. McEvoy, 803 Quandt, Springdale 72764 Secy.—James A. Capps, Post Office Box 1203, Fayetteville 72702
WHITE	Pres.—C. E. Ransom, 1407 East Race, Searcy 72143 Secy.—Hugh R. Edwards, 1300 South Main, Searcy 72143
WOODRUFF	Pres.—Fred E. Wilson, Post Office Box 387, McCrory 72101 Secy.—James E. Rowe, Post Office Box 387, McCrory 72101
YELL	Pres.—Gary W. Russell, Highway 22 West, Dardanelle 72834 Secy.—Damon G. H. Martin, Post Office Box 328, Ola 72853







**Mrs. Paul Cornell**

**President 1983-1984**

**Arkansas Medical Society Auxiliary**

**ARKANSAS MEDICAL SOCIETY AUXILIARY  
CONVENTION REPORT**

**FIFTY-NINTH ANNUAL SESSION OF THE  
ARKANSAS MEDICAL SOCIETY  
AUXILIARY**

Sequoyah Room, Hilton Inn  
Fayetteville, Arkansas  
May 6, 1983 9:30 a.m.

**FIRST GENERAL SESSION**

The First General Session was called to order by the president, Mrs. Herbert Taylor, who welcomed everyone.

The invocation was given by Mrs. Michael Platt.

The Auxiliary Pledge was read by all.

Mrs. Harold Decker warmly welcomed the Auxilians to Fayetteville for the first Arkansas Medical Society Convention since 1924.

Mrs. W. J. Wright, Crittenden County, thanked Fayetteville for a wonderful "Mountain Top Experience."

Mrs. Samuel Koenig, secretary, called the roll and seated the delegates.

Mrs. Koenig announced that the minutes of the Fifty-Eighth Annual Convention had been read by the reading committee and had been published in the Minutes and Reports.

Mrs. Taylor introduced Mrs. William D. Hughes, president of the Southern Medical Association Auxiliary. Mrs. Hughes gave an over-

AUXILIARY OFFICERS ADDRESS HOUSE OF DELEGATES OF ARKANSAS MEDICAL SOCIETY



Mrs. Herbert Taylor, president, (left) and Mrs. Paul Cornell, president-elect.

view of the future programs for Southern Medical this year.

Mrs. Taylor introduced Mrs. Jerry Blaylock, Craighead-Poinsett County, who is president of the newly formed Arkansas Psychiatric Auxiliary.

Mrs. Mitchell Singleton, convention chairman, announced that there are 140 delegates registered. She then instructed the group concerning the remaining convention plans.

Mrs. Walter Mizell, Saline County, and Mrs. Gordon Oates, Pulaski County, gave the past presidents' report. A poem as well as a check for AMA-ERF was presented in memory of Mrs. William Hibbitts and Dr. Warren Riley.

Reports were given by Officers and Committee Chairmen.

Mrs. Taylor thanked everyone for a year filled with memories and "special treats." She talked about many of her experiences with individual county auxiliaries.

Mrs. Paul Cornell, president-elect, reminded all Auxilians about the need to increase our membership. She would much rather see The Mississippi Auxiliary wearing Hog Hats than to sing "It's a Treat to Beat Your Feet in the Mississippi Mud."

Mrs. Samuel Koenig, secretary, reminded that all reports should be submitted to her in writing for inclusion in the Annual Minutes and Reports.

Mrs. James Gardner, treasurer, asked that all bills be given to her this weekend for payment.

Mrs. Taylor introduced Mrs. C. Lynn Harris, Southwest Area, and also the AMS-PAC representative. Mrs. Taylor also introduced Dr. Asa Crow, president-elect of the Arkansas Medical Society; Dr. Larry Lawson, chairman of the Arkansas Medical Society Political Action Committee; Mr. Michael Mitchell, attorney for the Medical Society; and Mr. Ken LaMastus, lobbyist for the Medical Society. They discussed with the House of Delegates the needs of ARK-PAC and the ways in which the Auxiliary can help them.

Mrs. Taylor, upon instruction of the January 11, 1983, Winter Board Meeting, moved that the Arkansas Medical Society Auxiliary make the AMS-PAC committee a permanent committee whose purpose is to educate auxiliaries of the needs and activities of ARK-PAC. The motion was seconded and passed.

Mrs. Taylor then introduced Dr. Morris M. Henry, president of the Arkansas Medical Society,



# PROCEEDINGS



Auxiliary President Mrs. Herbert Taylor with convention guests, Mrs. William Hughes (President of Southern Medical Association Auxiliary) and Mrs. Wayne Brady (Treasurer of the American Medical Association Auxiliary).



Auxiliary Officers for 1983-84: President Mrs. Paul Cornell, President-elect Mrs. Deno Pappas, Recording Secretary Mrs. Paul Mercedith, Treasurer Mrs. Samuel Koenig, Northeast Vice President Mrs. Ramon Lopez, and Northwest Vice President Mrs. James Burgess.





President of the Auxiliary for 1982-83, Mrs. C. Herbert Taylor, West Memphis.



Leaders of the Auxiliary for 1983-84—Mrs. Paul Cornell of Little Rock and Mrs. Deno Pappas of Hot Springs.

who welcomed the Auxiliary to Fayetteville and thanked the members for their many contributions. Then Dr. James S. Todd, representing the Board of Trustees of the American Medical Association, spoke on the tremendous support system physicians have in their wives.

Dr. Robert Benafield introduced the "Berkeley Model" health curriculum. This program is being used in Washington County. Mrs. Harold Decker gave a slide presentation showing many aspects of the program as it is being used in the Fayetteville and Springdale area schools. Mrs. Ray Jouett, Pulaski County, gave the remainder of the Health Projects Report.

Mrs. Curry Bradburn, bylaws chairman, presented the proposed bylaw changes. Article XII, Section 1; Article XII, Section 8; and Article III, Section 6, were amended. Article XIV was added.

Mrs. Robert Taylor, ARK-MAP chairman, reported that she had all three publications on display in the room. She encouraged suggestions as she will be again editing the newssheet.

Mrs. Taylor asked that the committee reports be interrupted in order to take care of business necessary in this session.

Mrs. Taylor then asked for nominations from the floor for the 1983-84 Nominating Committee. There are needed two members from the Board and two members from the House of Delegates. The following delegates were elected: Mrs. Walter Mizell, Saline County; Mrs. D. B. Allen, Pulaski County; Mrs. Amail Chudy, Pulaski County; and Mrs. Harold Decker, Washington County.

Mrs. Taylor asked for nominations for delegates to the 1983-84 AMA Auxiliary Convention in Chicago. The following were nominated and elected: Mrs. Deno Pappas, Garland County; Mrs. Paul Cornell, Pulaski County; Mrs. Stanley Teeter, Pope County; and Mrs. Herbert Taylor, Crittenden County. Mrs. W. Payton Kolb moved and it was seconded that the alternates to the National Convention be left to the discretion of the president.

The meeting was then adjourned at 11:30 a.m.



## AUXILIARY CONVENTION LUNCHEON



### ARKANSAS MEDICAL SOCIETY AUXILIARY LUNCHEON

Mountain Inn Hotel

Friday, May 6, 1983

Ramona Taylor, president of the Arkansas Medical Society Auxiliary, opened the luncheon by introducing and thanking the members of the Fayetteville Auxiliary for the wonderful convention plans. She then introduced the head table.

Mrs. Charles F. Cale, president-elect, Washington County, gave the invocation.

Mrs. Frank Morgan presented Mrs. Wayne Brady, treasurer of the American Medical Association Auxiliary, with a needlepoint picture as a remembrance of her visit in Arkansas.

Mrs. Mitchell Singleton, convention chairman, introduced special members of her committee.

The luncheon program was given by Pattie Williams, M.E.D., C.R.C., a private practitioner in counseling. Mrs. Williams spoke on "Stress Management." Mrs. Williams is a group leader with ten years experience in mental health settings, including community agency and private practice.



Helen Padberg drew for the door prizes that were provided by each county auxiliary.

The luncheon was then adjourned.



## AUXILIARY PAST PRESIDENTS' BREAKFAST MEETING



Past Presidents of the Auxiliary had a surprise for Willie Oates when she appeared at the breakfast on Friday morning. Every member of the club came wearing a chapeau.

Present for the meeting were Mrs. Louis Hundley, Honorary member Mrs. Paul Schaefer, Mrs. Frank Morgan, Mrs. Warren Boop, Mrs. Walter Mizell, Mrs. A. A. Little, Mrs. Charles Wilkins, Mrs. Gordon Oates, Mrs. Lynn Harris, Mrs. Harold Langston, Mrs. James Branch, Mrs. A. S. Koenig, Mrs. Curry Bradburn, and Mrs. Frank Padberg.



**SECOND GENERAL SESSION**

**FIFTY-NINTH ANNUAL SESSION OF THE  
ARKANSAS MEDICAL SOCIETY  
AUXILIARY**

Sequoyah Room, Hilton Inn

Fayetteville, Arkansas

May 7, 1983 9:30 a.m.

The Second General Session of the Fifty-Ninth Annual Convention was called to order by the president, Mrs. Herbert Taylor.

Mrs. Michael Platt, chaplain, gave the invocation.

The Auxiliary Pledge was repeated by all.

Mrs. Taylor then introduced Mrs. William D. Hughes, president of the Southern Medical Association Auxiliary. Mrs. Wayne C. Brady, treasurer of the American Medical Association Auxiliary, was also introduced. Mrs. Kemal Kutait, AMA Auxiliary Legislative Chairman, was recognized.

The minutes of the First General Session were referred to the reading committee.

Mrs. Paul Meredith, AMA-ERF chairman, introduced Dean Tom Bruce of the University of Arkansas School of Medicine. Dean Bruce spoke to the Auxilians on the many successes of the Arkansas Medical School made possible by the unrestricted funds provided by AMA-ERF. He thanked the Auxiliary for its support.

Mrs. Wayne C. Brady, treasurer of the American Medical Association Auxiliary, addressed the Auxiliary. She expounded on the importance of voluntarism in our nation and the tremendous part that our auxiliaries play. She reported that some of the focuses of the AMA Auxiliary for 1983-84 would be: Drunk Driving, Child Abuse, Positive Programs on Parent Education, Professional Skills Development, The Working Spouse, The Widowed Spouse, and Male Spouses.

The following county reports were given:

Bowie-Miller .....	Mrs. Tom Ellison
Garland .....	Mrs. Robert B. Clark
Benton .....	Mrs. John Garrett
Sebastian .....	Mrs. Pat Phillips
Washington .....	Mrs. Jimmy Haynes
Craighead-Poinsett .....	Mrs. John Baldrige
Greene-Clay .....	Mrs. Dwight Boggs
Jackson .....	Mrs. Ramon Lopez
Saline .....	Mrs. Walter Mizell
Pulaski .....	Mrs. D. B. Allen
Jefferson .....	Mrs. Bob Gaston
Baxter .....	Mrs. John Guenther

Mrs. Kemal Kutait presented highlights of National Legislation as it relates to health care. As the AMA Auxiliary Legislative Chairman, Mrs. Kutait also serves on the AMA Legislative Council. The Council is encouraging a coalition of health related organizations with the emphasis on quality medical care rather than cost containment as has been the focus for some time.

Mrs. Paul Cornell, president-elect and membership chairman, reported on the strengths and growth of our membership.

Historian/Archivist Mrs. Frank Padberg announced that there is an excellent exhibit on the History of Medicine in Arkansas.

Mrs. Michael Platt, chaplain, read a list of deceased Auxiliary members.

Convention Chairman Mrs. Mitchell Singleton reported that as of this meeting there are 154 members registered.

Mrs. Paul Meredith, AMA-ERF chairman, reported a balance of \$12,797.

Mrs. Walter Mizell, finance chairman, presented the proposed 1983-84 budget. She moved that the proposed budget be accepted. The motion was seconded and passed.

Mrs. Charles Wilkins, nominating chairman, presented the following slate of Auxiliary officers for 1983-84:

President-elect: Mrs. Deno Pappas, Garland County.

Northwest Vice President: Mrs. James Burgess, Pope County.

Northeast Vice President: Mrs. Ramon Lopez, Jackson County.

Southwest Vice President: Mrs. J. C. Callaway, Union County.

Southeast Vice President: Mrs. Robert C. Power, Pulaski County.

Recording Secretary: Mrs. Paul Meredith, Bowie-Miller County.

Treasurer: Mrs. Samuel Koenig, Sebastian County.

Mrs. Wilkins moved and it was seconded that this slate be accepted. The motion passed.

Mrs. Carlos Araoz, chairman of the Brooksher Loan Fund, reported that the repayment of loans were being made.

The meeting was recessed at 11:30 a.m. for lunch.

# CONTINUATION OF THE SECOND GENERAL SESSION AND LUNCHEON

Fayetteville Country Club

Saturday, May 7, 1983 12:00 p.m.

Mrs. Herbert Taylor, president of the Arkansas Medical Society Auxiliary, welcomed everyone to the luncheon.

The invocation was given by Mrs. D. B. Allen, president of the Pulaski County Auxiliary, and hostess for the luncheon.

Mrs. Frank Morgan, councilor to the Southern Medical Association Auxiliary, announced that "Southern is FUN, FUN, FUN!" She then presented the Doctor's Day Awards:

Second Place (county with more than 50 members): Sebastian.

First Place (county with more than 50 members): Garland, Craighead-Poinsett.

Second Place (county with less than 50 members): Baxter.

First Place (county with less than 50 members): Jackson.

Best Overall: Jackson County.

Mrs. Herbert Taylor then introduced: Mrs. William D. Hughes, president of the Southern Medical Association Auxiliary; Mrs. Wayne C. Brady, treasurer of the American Medical Association Auxiliary; Mrs. Morris Henry, wife of the president of the Arkansas Medical Society.

Mrs. Paul Cornell, membership chairman, presented the following awards:

Largest percentage increase: Pulaski—40%; Members-at-Large—40%.

Next largest percentage increase: Pope.

Counties with over 10% increase: Phillips—12.5%; Hot Spring County—11.11%.

Counties with some increase: Craighead-Poinsett, Saline, Jefferson, Garland.

Awards to new counties: Randolph, Baxter.

Award for 100% membership: Jackson County.

Mrs. Paul Meredith, AMA-ERF chairman, presented the following awards:

Largest contribution: Pulaski—\$2,500.

Second largest: Pope—\$2,100.

Largest amount per capita: Pope (\$62.50/member).

Second largest: Jackson.

Third place in both categories: Washington.

Mrs. Meredith then conducted the drawing for the AMA-ERF raffle and presented the Lapis bracelet to Mrs. Susie Gaston. She then presented the original pen and ink drawing which was to have been used on the AMA-ERF Sharing Card. The drawing went to Mrs. Elvin Shuffield.

Mrs. Louis K. Hundley, Ilse F. Oates Loan chairman, reported that she had enjoyed serving as the Oates Loan Fund chairman for many years. As she turned her books over to a new chairman, the Auxilians gave her a standing ovation in appreciation. Mrs. Hundley then thanked Ramona Taylor for a year of gracious leadership.

Mrs. Larry Lawson, chairman of the Cookbook, reported that the cookbook title was not yet decided. She displayed two book covers showing the titles: *Arkansas Cooks Naturally* and *An Apple A Day*. She reported that she hoped to have a definite title and a book cover at the Fall Board Meeting.

Mrs. A. S. Koenig, Jr., Long Range Planning chairman, reported that her committee had not met this year.

Door prizes from each county were then given.

Mrs. John Garrett, Courtesy Resolutions chairman, then read the Courtesy Resolutions Committee report.

Mrs. Herbert Taylor recognized all the past presidents.

Mrs. Warren C. Boop, Jr., then installed the new officers.

Mrs. Paul Cornell, newly installed president of the Arkansas Medical Auxiliary, introduced the members of her family present. She then delivered her inaugural address.

The meeting adjourned at 2:00 p.m.





# "Investiture Speech of Dr. James H. Young, Chancellor of the University of Arkansas at Little Rock"\*

## INTRODUCTION TO SPEECH OF DR. JAMES YOUNG

This speech of Dr. James Young is published in *The Journal of The Arkansas Medical Society* as a step toward furthering the interdisciplinary approach to medicine. There are many areas of overlapping mutual interests between the University of Arkansas at Little Rock and the University of Arkansas Campus for Medical Sciences. These interests involve not alone equipment but educational pursuits and mutual research projects. The physician as an educated man will appreciate excellence in his undergraduate training. The undergraduate planning a medical career will appreciate excellence in his post-graduate work. The intertwining of disciplines from both campuses and other campuses will do much to further the quality of medical practice, the quality of research, and the value of education to the physician and his community.

## A LAND AND UNIVERSITY OF OPPORTUNITY

An investiture ceremony has meaning much beyond the passing of a medallion to symbolize a change of leadership. It is a sign post and a demarcation line between past and future. It renews the ties with academic tradition and history and yet trumpets new alliances with those outside academia. It signals a time to build boldly on the strong legacy created by others and yet a time to forge a common bond around new and common goals.

This investiture has special meaning for me beyond the personal. It comes at a time when the air in this country and in this state is charged with the electricity of change in education. It comes at a time when Thomas Jefferson's belief in education as the single most important ingredient for success of the American experiment seems to have assumed new life and new importance. He said:

"Enlighten the people generally, and tyranny and oppression of body and mind will vanish like spirits at the dawn of day. If the condition of [people] is to be progressively [improved] as we fondly hope and believe, education is to be the chief instrument in effecting it."

The comments by Governor Clinton earlier today, and his recent action in naming Mrs. Clinton to head a new commission to look at educational standards, indicate to me that this state is ready to accept Jefferson's belief in the value of education to the well-being of our society.

The reading I have done in books several of

you have given me about this state's history convinces me that Arkansas in the rest of this century is particularly fertile ground for the ideas of Thomas Jefferson.

Even though statehood came almost 150 years ago, Arkansas remains a frontier. It is yet young and yet retains many of the frontier qualities which caused Jefferson to prescribe education as a key to the country's growth. He was standing on the edge of a limitless frontier stretching from sea to sea. We Arkansans are standing on the frontier of the future.

We Arkansans still believe we are on the verge of new prosperity just as settlers moving west always believed. We believe our land is still unspoiled, still waiting for the spade to be turned, the wilderness to be cut down, the stream to be dammed, the cities to spring up, the factory chimneys to reach to the sky, although the present teaches us those changes may no longer be totally desirable.

Some Arkansans still believe that our state will be built only as the result of the sweat of our brow and the callouses on our hands and not also as a result of "book-learnin'", even though we know the time when that was true is long passed.

We Arkansans exhibit the fierce independence of thought and action which usually sends the voting analysts scurrying to try to decipher our election returns, even though we sometimes sacrifice the true spirit of community necessary to solve today's complex problems.

It was these attributes of the frontier, tempered by today's realities, which first attracted me to Arkansas and first led me to conclude that even after 150 years of statehood, Arkansas is yet new, yet a territory of promise.

Arkansas is the place just over the next hill, the place just around the next bend in the river that the misty-eyed dreamers of Jefferson's day were searching for. I think I may be the latest of the dreamers to follow that same course.

The explanation for Arkansas' remaining in a frontier stage of development may be that Arkansas was bypassed by many of the early settlers who filled other states around us because the Ozarks and the Indian Territory to the west led them to

\*Delivered at Little Rock, Arkansas, on May 9, 1983.

skirt our borders. The critical mass of population needed for development just did not accumulate.

Economically, the state has been star-crossed. Born into statehood in the land-boom climate of 1836, Arkansas' first ventures at developing investment capital were quickly dashed by the depression and economic disaster which hit the country one year later in 1837. Failure, coming so early and in the midst of so much promise, bred a caution which has been reinforced in succeeding economic disasters, such as the Civil War, Reconstruction, and the Great Depression.

Much of our history has been an effort to overcome that caution and to overcome that fear of taking risks.

A new push to economic development appeared after World War II and was symbolized by the adoption of a new state slogan—"Arkansas, the Land of Opportunity". It is a slogan which offers promise, but does not guarantee easy success. It is a slogan which perfectly suits a frontier.

Arkansas was not yet the land of opportunity for all its citizens, however. We stand a quarter of a century from that day in 1958 when Ernest Green marched across the field at Quigley Stadium and received his diploma as the first black Arkansan to graduate from Little Rock Central High. The state now does offer in large measure not only opportunity but equal opportunity to its citizens.

The stage is at long last set to get about the work of developing our state to its full potential. It is time to fulfill the promise.

It is with a sense of high adventure that I join you in this task. It is exciting to have come over that next mountain and come around that next bend in the river as so many Arkansans have done before me, and to have arrived in this land of opportunity. Each day dawns expectant with new challenges. There is promise, but no guarantee of easy success.

This university is much like the state—full of promise but still needing much hard work to achieve success. That too, as with the state, attracted me. I have discovered an institution which fits well into the promise of opportunity Arkansas offers and is conscious of the leadership role it must play in making the dream shared by Arkansans for 150 years come true. We are full of promise, but there is no guarantee of easy success for us.

UALR has a full agenda to accomplish so that our value as a major resource to this state is realized. I can tell you with pride that we are hard at work on that agenda.

That agenda starts with providing the richest resource we can give to the state—people. I believe the University of Arkansas Board of Trustees and System Administration and the UALR Board of Visitors are committed to assembling a talented faculty which can produce talented students. In just a few short months, I have come to know many UALR alumni who are already at work on new frontiers in government, business, industry, and education.

The University of Arkansas at Little Rock was created as a state university with a stroke of the late Governor Winthrop Rockefeller's pen. Since that moment, it has dared to try new ideas and seek new solutions to old problems. Many of you ask us to try new methods of providing education. We respond. You ask us to offer our classes in unusual places. We respond. You ask us to form new partnerships with you. We respond. You ask us to collect information, analyze it, and propose solutions. We respond. We respond with anticipation of how we can help build a better Arkansas.

You ask us to be more than a university as universities are traditionally defined. I truly believe we have not only responded but furnished bold leadership. We are experimental in the sense that we take risks, we try new things, and we are willing to accept failure as well as success. We know it takes great risk and hard work to make advances and we accept that role. Indeed, we challenge you and this state to dare with us.

I can tell you most sincerely that this University's spirit of daring was an important attraction to me.

But there is another important item on UALR's agenda which also attracted me. Many of you in the community may not be aware of this agenda item because by nature it is less visible.

This traditional event today, in one respect, shows you that other agenda item. It shows you a University which is full square in the mainstream of academic institutions. And UALR has an equal measure of potential in the traditional, academic sense as it does in the non-traditional, service-oriented sense.

Those of you who have asked that we be different, that we be bold, that we try new things



with you—I ask you to accept with us a challenge which UALR also faces—the challenge of achieving excellence in the traditional standards of academic integrity.

It requires that we fill our libraries with books, as well as use the latest data processing equipment. It requires us to teach students to write well, as well as master a computer keyboard. It requires us to instill in our students the love of books and music and art, as well as a zest for financial success. It requires us to champion “book-learnin’” as an integral part of building our state, as well as teaching the technical skills to do it.

In assuming this new challenge in my life, I am committed to strengthening both UALR’s ability to serve the state’s future with new and different programs and in strengthening UALR’s traditional arts and sciences foundation. The blend of both will produce Arkansans fully capable of helping achieve this state’s promise.

Most certainly this University could achieve easy success by focusing narrowly on a few high demand professions, or, we could achieve easy success by focusing broadly with little respect for academic integrity. But remember, opportunity implies no easy success. Our university must choose instead to be more selective in what we offer, to be ever more demanding of our students, and to be eager to assist in providing the wealth of educational opportunity to this state.

We must not turn out graduates with a shortcut education although we may desperately need certain skills today, for the education process is not only one of substance, it is also one of intellectual maturation.

We must not turn out graduates who are trained only to do one job well and who are masters only

of today’s tasks, for our state will continue to pay for their retraining each year as technology requires ever more complex tasks.

We must not graduate students educated by the lowest bidder, for the knowledge and skills we have to teach require more abundant resources.

Rather, we must commit to provide citizens full of intellectual vitality.

We must commit to provide citizens secure in their past and confident in their future.

We must commit to provide citizens who can lead, who have vision, who can think, who can analyze, and who can make decisions.

We must, indeed, commit to provide citizens not expecting easy success but ready to shoulder the burden of moving this state from a frontier to a fully developed and healthy society as Jefferson envisioned.

Citizens who can do these things are not only technically competent, but they have a rich foundation of literature, philosophy, composition, mathematics, history, sciences, and the arts, complemented with an equally rich understanding of the necessary interdependence of people of our land and of all other lands.

We at UALR are ready to join with the people of our state in fulfilling the promise which attracted so many of us to Arkansas.

I must tell you that all the surmises and guesses and hopes and dreams I held about this state and its people fell far short of what I discovered upon coming over that next mountain and around that next bend in the river to Arkansas. Today, you have honored me. But in closing let me honor you. I salute the Land of Opportunity. I salute the University of Opportunity. I accept both the bright promise and the assurance of no easy success.



# The December 2, 1982 Tornado of Saline and Pulaski Counties: Implications for Injury Prevention

Marvin Leibovich, M.D.

## ABSTRACT

Tornadoes are short lived local storms containing high speed winds usually rotating in a counter clockwise direction which are often observable as a funnel shaped appendage to a thunderstorm cloud. The general direction, season and time of storm occurrence tends to adhere to certain established patterns.

In 1982 Arkansas experienced more tornado deaths than any other state in our country. On December 2, 1982 a killer tornado passed through Saline and Pulaski counties resulting in two deaths and numerous injuries. A review of all tornado casualties seen at one major medical center in Little Rock, Arkansas, was undertaken to determine if there were any implications for prevention of tornado deaths and/or injuries.

## INTRODUCTION

It was an unseasonably warm 74 degrees just after 3:00 p.m. on December 2, 1982 when residents of Saline and Pulaski counties noted a boiling mass of dark clouds approaching from the southwest. Suddenly in Saline County a tapered cloud extended from a giant thunderhead touching down in the Alexander community. Within moments 30 mobile homes had been destroyed and another 30 mobile homes and six houses were damaged. One person had been killed when he was thrown from his mobile home, which overturned landing on top of him, and 20 more individuals had been injured. The storm traveled a typical tornado's direction from southwest to northeast, striking again in extreme southwestern Pulaski county where multiple funnel clouds were reported as the storm system moved across the Little Rock metropolitan area. In its wake through Pulaski county one man was killed in his automobile by flying debris, 30 persons were injured and 800 homes were either damaged or destroyed. A high school was heavily damaged and 10 business establishments were destroyed with another 32 damaged. Several apartment complexes and a nursing home were also damaged.

Damage estimates for Saline and Pulaski counties respectfully were \$785,000.00 and \$14,100,000.00.<sup>1</sup>

## TORNADO FACTS

The precise mechanism of tornado formation is controversial and beyond the scope of this article. Tornadoes develop within intense thunderstorm clouds which are known as cumulonimbus. Not all thunderstorms will develop into tornadoes, but when the proper weather conditions are present, e.g., unseasonably warm and humid air at the surface with cold air at middle atmospheric levels and a strong upper level "jet stream", tornadoes are more likely to occur.<sup>2</sup> Tornadoes are generally short lived local storms containing high speed winds which usually rotate in a counter clockwise direction and most often are observed as a funnel shaped appendage to a cumulonimbus cloud. The destructive effects of a tornado are caused by the strong rotary winds, the impact of wind borne missiles and the partial vacuum at the center of the vortex.

Over the past 30 years the National Severe Storms Forecast Center has accumulated valuable tornado data. The median tornado path has a length of two miles and a width of 49 yards and devastates an area of only 0.06 square miles. When the nation as a whole is considered, 87% of all tornadoes move from the southwest into the northeast quadrant.<sup>3</sup> Tornado activity demonstrates a seasonal distribution. Fifty-four percent of all tornadoes occur during the spring, 27% occur during the summer, but only 19% occur in the fall and winter. Sixty percent of tornadoes occur between noon and sunset while the hours from sunset to midnight and midnight to noon have an occurrence rate of 21% and 19% respectively.<sup>4</sup> All 50 states have experienced tornado damage during the last decade. Tornado intensity is estimated by the Fujita Scale or F Scale based upon wind speeds generated by the tornado.<sup>5</sup> Using the F Scale tornadoes are classified as weak (F0, F1), strong (F2, F3), or violent (F4, F5) as shown in Table 1. During a 29-year period from 1949 through 1978, 63% of all tornadoes were rated as F0 or F1 while only 2% were ranked as F4 or F5. The annual average number of tor-

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nadoes in the United States is 671, and for the second time in recorded history the annual tornado count exceeded 1,000 in 1982.<sup>6</sup>

ARKANSAS TORNADOES

The history of Arkansas tornadic activity is awesome. Of the 10 most infamous tornadoes reviewed from 1870 through 1979 by the Office of Nuclear Regulatory Research, the Nuclear Regulatory Commission, and the National Severe Storms Forecast Center, Arkansas is represented by the Dierks, Arkansas outbreak of March 21, 1952 which was the first of 28 tornadoes to strike Arkansas, Missouri, Kentucky, and Mississippi. The overall death toll for this outbreak was 204. Judsonia, Arkansas was virtually destroyed; 50 persons were killed and 325 were injured.<sup>7</sup> A review article published in the December 5, 1982 Arkansas Gazette vividly recounts the deaths and injuries brought upon Arkansans as a result of tornado disasters, as shown in Table 2.<sup>8</sup>

TABLE 1  
FUJITA TORNADO CATEGORIZATION

Category	F-Scale	Approximate Wind Speed (MPH)
Weak	0	<73
	1	73-112
Strong	2	113-157
	3	158-206
Violent	4	207-260
	5	261-318

More tornado deaths occurred in Arkansas than in any other state in 1982. Fifty-nine tornadoes occurred in our state in 1982. Forty of the 59 tornadoes were classified as strong or violent. Ten of the 59 tornadoes resulted in the 19 tornado deaths. Tornadoes which cause a death are termed killer tornadoes and all ten killer tornadoes in our state in 1982 were rated as F2, F3, or F4.

The months of April and December of 1982 were most noteworthy for Arkansas tornado activity. Fourteen tornado deaths occurred in our state on April 2. Five people were killed in Hope when a tornado hurled a huge oak tree into their home. Three deaths occurred in Nashville, two each in Vidette and Conway, and single fatalities were reported in Forrest City and Ashdown. A tornado which passed through Broken Bow, Oklahoma on April 2 carried a motel sign aloft which was found 30 miles away inside Arkansas.

The 26 tornadoes which occurred in Arkansas during December were more than two and one-half times the prior record number of December tornadoes which had been established in 1978. Four persons were killed in this most unusual month for tornado activity.

The December 2, 1982 tornado which resulted in 44 injuries and two fatalities is reviewed below.

INJURY PATTERNS FROM THE  
DECEMBER 2, 1983 TORNADO

Baptist Medical Center (BMC) is a 739 bed tertiary care hospital located in western Little

TABLE 2  
ARKANSAS TORNADOES CAUSING 10 OR MORE DEATHS

Date	Killed	Injured	Location
May 15, 1968	34	350	Jonesboro
April 19, 1968	14	270	Greenwood
March 21, 1952	40	274	Hazen, England, Cotton Plant, Marked Tree
March 21, 1952	57	346	Dierks, Paron, Mayflower, Searcy
January 3, 1949	57	402	Hopwell, Warren
March 26, 1949	19	162	Whelen Springs, Dalark, England, Scott, Keo, Hazen
June 1, 1947	35	300	Jefferson County
April 10, 1944	42	304	Magnolia, Parkin
April 16, 1939	27	62	Drew County
May 9, 1927	24	72	Strong



THE DECEMBER 2, 1982 TORNADO OF SALINE AND PULASKI COUNTIES:  
IMPLICATIONS FOR INJURY PREVENTION

Rock. This facility was the most proximate definitive care hospital for the storm victims of

Saline and Pulaski counties. As can be seen in figures 1 and 2 the tornado actually passed within



Figure 1.

The funnel of the December 2, 1982 tornado is shown as it touches down in western Little Rock. Baptist Medical Center is the large structure at the right of the photo. (The spots in the photo are rain drops on the lens of the camera.)



Figure 2.

Moments after the tornado touched down a large amount of dust and debris was picked up by the tornado producing a much more visible funnel. (The spots in the photo are rain drops on the lens of the camera.)



several city blocks of the hospital. Twenty-four of the storm victims were treated at BMC and a chart review of all these patients was undertaken to determine the types of injuries seen, the location of the patients at the time the storm struck, and to determine if there were any implications for prevention of tornado deaths and/or injuries. In all instances when the information on the Emergency Department (ED) chart was considered inadequate, personal phone calls or visits were used to obtain the necessary information. One of the storm victims, who was hospitalized and subsequently discharged, could not be located to determine where he was when the tornado struck. His home had been destroyed and he could not be reached by phone or mail.

Table 3 indicates the chronological order of all 24 patients treated at the BMC ED along with their primary diagnosis, secondary diagnosis (if one was established), their final disposition and their location when the storm struck. Seventeen males (71%) and seven females (29%) were seen in our ED. The age distribution of our patients was from five years to sixty-nine years with a mean age of 35.5 years. The location of the victims at

the time of the tornado was: in automobiles 7 (29.1%); in mobile homes 7 (29.1%); in permanent home dwellings 7 (29.1%); and in a public school 2 (8.3%). The location of the single victim which we have been unable to locate (4.1%) is unknown. The fatality seen at our hospital was in an automobile when the tornado struck.

Lacerations were the most common injuries noted as the primary diagnosis 14/24 (58.3%), followed by blunt chest trauma 2/24 (8.3%). The most common secondary diagnosis was lumbar strain 3/14 (21.4%), followed by rib fractures 2/14 (14.2%), foreign bodies 2/14 (14.2%), lacerations 2/14 (14.2%), and cervical strain 2/14 (14.2%). Seventeen of the 24 storm related patients (71%) were discharged following treatment in the ED. Two patients (8.3%) went directly to surgery from the ED, four (16.6%) were admitted for observation, and one patient (4.1%) was pronounced dead on arrival. Amazingly only two of the victims which we interviewed took what might be considered to be serious protective measures in an attempt to prevent their injuries: one man hid behind a couch and a woman lay face down with a pillow covering her head in the bathtub of her

TABLE 3

Victim #	Age	Sex	Prime Dx	Secondary Dx	Disposition	Location
1	22	M	Lumbar Strain	Scalp Lac.	D/C	Auto
2	28	M	Lacerations		D/C	Auto
3	38	M	Laceration	Lumbar Strain	D/C	Auto
4	10	M	Impaled F.B.	Laceration	Surg	Home
5	16	M	Psychogenic Shock		D/C	School
6	30	M	Lacerations		D/C	Mobile Home
7	32	M	Lacerations		D/C	Mobile Home
8	69	M	Laceration		DOA	Auto
9	68	F	Open Arm Fx	Impaled F.B.	Surg	Auto
10	61	M	Blunt Chest Trauma	Blunt Abd. T.	Admit	Home
11	29	M	Lacerations	Lumbar Strain	D/C	Home
12	35	M	Scalp Hematoma	Abrasions	D/C	Mobile Home
13	37	F	Lacerations	Cervical Strain	D/C	Auto
14	40	M	Cervical Strain	Lumbar Strain	D/C	Auto
15	22	F	Laceration	Rib Fx	D/C	Home
16	35	M	Laceration	Blunt Chest T.	ADM	Mobile Home
17	57	M	Laceration	Rib Fys	ADM	Mobile Home
18	24	F	Blunt Chest Trauma		D/C	Mobile Home
19	17	F	Ankle Sprain		D/C	School
20	5	M	Laceration	F.B.	D/C	Home
21	42	F	Laceration		D/C	Home
22	46	M	Lacerations		D/C	Home
23	37	F	Laceration		D/C	Mobile Home
24	52	M	Closed Head Trauma	Cervical Strain	Admit	?

THE DECEMBER 2, 1982 TORNADO OF SALINE AND PULASKI COUNTIES:  
IMPLICATIONS FOR INJURY PREVENTION

bathroom. These two patients were treated for minor lacerations and released.

#### IMPLICATIONS FOR INJURY PREVENTION

Improved severe storm forecasting with weather radar and satellite scanning have been of invaluable assistance in detecting storms which could potentially spawn tornadoes. The National Severe Storms Forecast Center in Kansas City, Missouri and local National Weather Service offices throughout our state have developed a sophisticated tornado watch and tornado alert system to provide as much warning as is possible to the public. A tornado watch implies that conditions are right for a tornado to occur, while a tornado warning infers that a tornado has been noted on radar or has actually been spotted by observers. Current guidelines for public safety in severe storms are prepared by the National Oceanic and Atmospheric Administration's (NOAA) disaster preparedness staff.<sup>9</sup> People at home should seek refuge in a basement, hallway, closet, or interior room, and cover themselves with pillows, blankets, or mattresses. People in cars on the open road are advised to drive in a direction perpendicular to the direction of the tornado, but if this is not possible they should leave the vehicle and lie flat in the nearest ditch or gully. Persons driving their automobiles in urban areas are urged to abandon their vehicles and seek shelter indoors. In high rise buildings interior small rooms or hallways are thought to be the safest locations. Persons in mobile homes are urged to seek a more substantial structure when tornado alerts are issued. Proper tie-downs that anchor the trailer are effective when windspeeds do not exceed 50 miles per hour and thus are completely ineffective when confronted by true tornado activity.

The two fatalities of the December 2, 1982 tornado were situated in the most dangerous locations that the NOAA have identified, i.e., a mobile home and in an automobile. Most of the injuries which we saw were caused by flying debris such as glass, wood, or metal. The remainder of the injuries were caused by the victim being thrown

about in the storm and sustaining a deceleration type of injury. Had the above mentioned NOAA recommendations been followed on December 2, 1982, the author estimates that both deaths and 80 to 90% of all injuries which were treated at the BMC ED could have been prevented.

#### CONCLUSION

Tornadoes are not an infrequent natural disaster occurring in Arkansas. A large number of deaths and injuries can be expected to occur as a result of this violent form of weather activity. Physicians within our state should be aware of the NOAA tornado preparedness information and make this information available to their patients in an attempt to decrease the mortality and morbidity associated with these storms.

#### ACKNOWLEDGEMENTS

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#### THE AUTHOR

Dr. Marvin Leibovich is Medical Director of the Emergency Department at Baptist Medical Center in Little Rock, and the President of the Arkansas Chapter of the American College of Emergency Physicians.

#### REFERENCES

1. Fair, Elizabeth, and Hopkins, Jennifer: Arkansas Gazette, December 19, 1982, page 4A.
2. Tornado, U.S. Department of Commerce National Oceanic and Atmospheric Administration National Weather Service, NOAA/PA 77027, page 2.
3. Schaefer, Joseph T., et al.: Tornadoes: When, Where, How Often. Weatherwise, Vol. 33, #2, 1980, page 56.
4. Ibid, page 53.
5. Fujita, T. T.: Weatherwise, Vol. 26, 1973, pp. 56-57.
6. Ferguson, E. W., Schaefer, J. T., Weiss, S. T., and Wilson, L. F.: Weatherwise, Vol. 36, #1, 1983, page 8.
7. Galway, J. G.: Weatherwise, Vol. 34, #3, 1981, page 107.
8. Arkansas Gazette, December 5, 1982, page 16A.
9. Tornado, U.S. Department of Commerce National Oceanic and Atmospheric Administration National Weather Service, NOAA/PA 77027.





# Exercise Testing: Dynamic Assessment of Dyspnea

Mark Howard Bowles, M.D.\*

Dyspnea can be defined as a sensation of breathlessness inappropriate to a subject's level of activity. If the minute ventilation exceeds 50% of the maximal ventilatory volume (MVV), Dyspnea is predictable. If  $VE/MVV$  is less than 0.30, Dyspnea is invariably absent. There are numerous causes of Dyspnea, non-pulmonary as well as pulmonary in etiology. Some pulmonary causes would include chronic airflow obstruction, interstitial lung disease and pulmonary vascular disease. Non-pulmonary causes include compromised cardiac output, anemia, and neuromuscular disease. The latter effects dyspnea by causing respiratory muscle weakness. A compromised cardiac output could be on the basis of organic heart disease or impaired stroke volume due to a deconditioned state. Grades of Dyspnea: 1-4 have been suggested with grade 1 (slight) being the mild shortness of breath one might expect after climbing two flights of stairs. If one experienced Dyspnea simply in dressing, this would be considered a grade 4 or "very severe" degree of Dyspnea.

## DETERMINANTS OF FUNCTIONAL CAPACITY

Multiple factors are involved in work activity and include ventilation and respiration ( $VE$ ,  $VA/Q$ , Diffusion,  $Hb - O_2$  affinity); Metabolism (muscle type and mass, Myoglobin content, energy stores, tissue  $O_2$ ); Central circulation (arterial blood pressure, cardiac output); Peripheral circulation; and psychological aspects. These determinants of functional capacity can be distilled into two major categories:

1. Oxygen delivery (alveolar ventilation, cardiac output, hemoglobin, oxyhemoglobin dissociation curve); and
2. Metabolic capacity of exercising muscle.

## EXERCISE CAPACITY IN "NORMAL" SUBJECTS

In asymptomatic persons, functional capacity is primarily dictated by cardiac limitations and/or (peripheral factors). Usually only sixty percent of the predicted maximal minute ventilation or MVV is achieved and thus there is significant respiratory reserve. This "reserve" narrows in well-trained athletes. There is an initial increase in the stroke volume until 40% of the maximal

oxygen consumption ( $VO_2$  max) is attained. Thereafter, further increments in cardiac output are due to increases in the heart rate. The cardiac output may increase some six times over resting values and a normal subject might expect to achieve a cardiac output of 20 to 25 liters per minute. Cardiac outputs in excess of 40 liters per minute have been documented in world class athletes. Increases in minute ventilation are related to increments in the tidal volume and the respiratory rate. The tidal volume may increase up to 75% of the vital capacity. Beyond this point, further increment in the minute ventilation is related to an increase in the respiratory rate. Peak respiratory rates are generally in the 40 to 50 breaths per minute range. The minute ventilation exhibits a linear relationship to  $VO_2$  until the onset of lactic acidosis. This situation is created when tissue demands for oxygen exceed supply and anaerobic metabolism is spawned. Lactic acid is buffered by bicarbonate with  $CO_2$  as a product. This carbon dioxide load stimulates ventilation which at this point becomes non-linear with respect to minute oxygen consumption ( $VO_2$ ). This upward shift in the  $CO_2$  production and minute ventilation plot is called "the ramp" or "the breaking point". With an increase in ventilation, the arterial  $CO_2$  tension ( $PaCO_2$ ) should drop; thus, respiratory compensation for underlying metabolic acidosis. A point is reached where the ventilatory effort can no longer keep up with the  $CO_2$  production and tissue oxygen deficit, and the consequence is fatigue and exhaustion. Another result is a decrement in arterial pH. This may persist into the recovery phase and a nadir in bicarbonate levels may be appreciated at five minutes post-peak activity. A drop in arterial oxygen tension can be seen at maximal activity due to exorbitant tissue demands and consequent desaturation of venous return. For this reason, supplemental  $O_2$  can sometimes improve performance. The aforementioned anaerobic threshold customarily occurs at 50 to 75 percent of the maximal power output ( $VO_2$  max). The respiratory quotient (rate of  $CO_2$  production to  $O_2$  consumption) should exceed 1.0 near maximal activity. An RQ greater than 1.0 usually indicates that the subject will last only a few more minutes at most

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on the treadmill. The  $VD/VT$  should drop from 0.25-0.30 to 0.05-0.20 with maximal activity indicating improved ventilatory efficiency. Diffusion capacity may also increase. The arterio-venous  $O_2$  difference may widen threefold indicating increased extraction of  $O_2$  by tissues. The increments in cardiac output and A-V  $O_2$  difference accounts for the twentyfold potential increase in  $VO_2$ .

#### FACTORS LIMITING PERFORMANCE

Of course, Pulmonary Disease immediately comes to mind when one thinks of Dyspnea or shortness of breath. However, other conditions must also be mentioned. Cardiac disease can cause Dyspnea or exertion if there is valvular heart disease or cardiac muscle disease (i.e. Cardiomyopathy). Myocardial Ischemia can create an elevation in the pulmonary artery pressure with acute Dyspnea as a consequence. Furthermore, with Ischemia, a drop in the cardiac output (Q) is expected. This may cause dizziness, syncope, etc. It is important to think of Dyspnea as an anginal equivalent in persons with Myocardial Ischemia. Of course, hypotension and arrhythmias may also occur as a result of Myocardial Ischemia and further limit exercise tolerance. Cardiopulmonary deconditioning in an otherwise asymptomatic individual may also effect Dyspnea on exertion. Motivational factors are also important as one person may find mild shortness of breath distasteful while another subject may actually find such a sensation pleasing or desirable. Other factors may limit activity and thereby foster a deconditioned state with resultant Dyspnea: Peripheral Vascular Disease and Arthritis.

#### FUNCTIONAL LIMITATIONS IN COPD

COPD patients are in a unique situation in that they have an increased ventilatory requirement and yet a decreased ventilatory capacity. The increased ventilatory requirement is related to their inordinate amount of physiologic dead space ( $VD/VT$ ) and ventilation-perfusion inequalities ( $V/Q$ ). At the same time, such persons have a reduced ventilatory capacity due to airflow obstruction. Another factor to be considered is their increased work of breathing. This may account for 10% of the oxygen consumption at maximal activity. Other considerations in pulmonary disease include diffusion abnormalities which effect an increased alveolar-arterial oxygen difference (A-a $O_2$  difference) which contributes a hypoxe-

mia; a compromised ventilatory max which impairs  $CO_2$  excretion fostering metabolic acidosis; and right ventricular dysfunction and increased pulmonary vascular resistance which may cause a fixed cardiac output. Ventilation perfusion ( $V/Q$ ) mismatching is the major contributor to hypoxemia in COPD. A shunt refers to areas of lung which are under-ventilated relative to perfusion. Further decrements in alveolar ventilation or a further increase in perfusion can exaggerate inequalities and cause or worsen hypoxemia. This phenomenon could typify the chronic bronchitic. Of course, the other situation is "dead space" where alveoli are ventilated, not perfused. Alternatively, one could say alveoli are under-perfused relative to their ventilation. In emphysema and primary pulmonary vascular disease, one can see obliteration of vasculature. However, matching may be more or less preserved until end-stage with resultant maintenance of a fairly respectable  $PaO_2$ . However, with exercise one can see inordinate ventilation or perhaps, a decrement in perfusion which can foster hypoxemia.

#### GENERAL PREDICTORS OF IMPAIRED PERFORMANCE

Various static or baseline measurements can be obtained for prediction of treadmill performance or functional capacity. Some of the following factors would predict functional impairment: Abnormal arterial blood gas analysis, A-a $O_2$  difference greater than 50 torr,  $VD/VT$  greater than 0.30, decreased DLCO, anemia, increased carboxyhemoglobin, FVC less than 1.0 liters,  $FEV_1$  less than or equal to 0.5 liters, resting tachycardia, dilated left ventricle, compromised left ventricular function, severe valvular heart disease, marked obesity. Thus, investigation of Dyspnea could include some or all of the following studies: history and physical examination, chest roentgenogram, electrocardiogram, spirometry, arterial blood gas analysis, echocardiogram, lung volumes, and DLCO. Screening blood work should also be obtained to rule out systemic disease. This could include hematocrit to rule out anemia and T4 to rule out thyroid disease. Diabetes, renal failure, and liver dysfunction should also be excluded as these entities could contribute to weakness and easy fatigability. An elevated sedimentation rate could suggest inflammatory, infectious, or neoplastic disease which could impair exercise tolerance.



## HALLMARKS OF LUNG VERSUS HEART DISEASE

The clinical situation often arises when one is asked to categorize Dyspnea as emanating from a cardiac, pulmonary or deconditioned basis. Simply speaking, lung disease is characterized by inordinate ventilation for any given oxygen consumption or  $\text{CO}_2$  production. This relates to factors already mentioned above such as dead space ventilation. Heart disease is typified by an inordinate heart rate for any given oxygen consumption. This primarily relates to a compromised stroke volume. The ventilatory equivalent ( $\text{VE}/\text{VCO}_2$  or  $\text{VE}/\text{VO}_2$ ) relates minute ventilation to oxygen consumption or  $\text{CO}_2$  production. The determinants of minute ventilation are  $\text{VCO}_2$ ,  $\text{PaCO}_2$ , and  $\text{VD}/\text{VT}$ . A normal value for the ventilatory equivalent is less than 3.5 liters per 100 ml of  $\text{CO}_2$ . Values greater than this point to pulmonary limitations. Oxygen Pulse ( $\text{VO}_2/\text{HR}$ ) relates oxygen consumption to cardiac frequency. If one rearranges the Fick Equation, the stroke volume can be related to these two parameters. Generally, a reduction in  $\text{O}_2$  pulse implies a compromised stroke volume. A normal value is 20 to 30 ml/beat and values less than this suggest cardiac limitations, due to organic heart disease or a deconditioned state.

## PARAMETERS ASSESSED IN DYNAMIC METABOLIC TESTING

These parameters include  $\text{VE}/\text{VO}_2$ ,  $\text{VE}/\text{VCO}_2$ ,  $\text{O}_2$  pulse,  $\text{VE Max}$ ,  $\text{RQ}$  ( $\text{VCO}_2/\text{VO}_2$ ),  $\text{VO}_2 \text{ Max}$ ,  $\text{VD}/\text{VT}$ ,  $\text{Q}$ , and  $\text{PaO}_2$ . Most of these parameters are generated in our "evaluation room" by a Beckman Metabolic Measurement Chart. However, less sophisticated apparatus can give the same results. Maximal oxygen consumption ( $\text{VO}_2 \text{ max}$ ) is the parameter of primary interest in that this is the accepted index of cardiopulmonary fitness. It can be affected by age, conditioning and size. To account for the latter, values are often expressed as milliliters/kilogram/minute rather than liters/minute. The highest recorded value is 94 milliliters/kilogram/minute in an East German cross-country skier. In contrast, a severely deconditioned person may exhibit a  $\text{VO}_2 \text{ max}$  in the teens or twenties. The peak value is determined by a plateau or leveling off of the oxygen consumption despite increasing work loads. This is a trainable parameter. It is mathematically derived as a product of the cardiac output and  $\text{a-VO}_2$  difference. Minute ventilation ( $\text{VE}$ ) is the other measure of significant importance. Minute

ventilation increases from a baseline of less than 10 liters/minute to 100 liters/minute or greater in the average deconditioned male. A well-conditioned athlete may expend over 200 liters/minute. As related earlier, the respiratory rate increases from a baseline of 12 to 15 breaths/minute to 40 to 50 breaths/minute. The tidal volume may increase from 10% of vital capacity to 50 to 75% of vital capacity. The respiratory quotient, or ratio of  $\text{CO}_2$  production to oxygen consumption, is normally in the range of 0.65 to 0.80 at rest. The value usually increases greater than 1.0 with peak activity and may increase greater than 1.5 during recovery from exercise. An  $\text{RQ}$  greater than 1.0 suggests that metabolism has shifted to anaerobic processes. In pulmonary disease, exhaustion may occur with an  $\text{RQ}$  less than 1.0, in that  $\text{CO}_2$  excretion is severely limited by compromised ventilation.

The question then arises, "why not just perform conventional exercise testing with the treadmill or bicycle ergometer rather than adding the metabolic measurements?" The major reason is that one does not learn much regarding a patient's ventilatory capacity in conventional exercise testing. Furthermore, there is a wide range of oxygen consumption for any given performance level among individuals. Thus, nomograms based on treadmill accomplishment are subject to significant error. This is in large part related to individual variability in physical and metabolic efficiency. Finally, it is well accepted that pulmonary function testing cannot accurately predict work capacity; ergo, patients with identical  $\text{FEV}_1$  determinations but remarkably different functional capacities.

## UTILITY OF THE $\text{VO}_2 \text{ MAX}$

With the determination of maximal oxygen consumption one can accurately classify fitness with regard to persons of similar age. The presence and degree of functional impairment can be assessed. Furthermore, one can learn whether a subject is actually "disabled" regarding work or recreational activities. While "impairment" suggests a defect not usually found in healthy individuals, "disability" implies the inability to perform a certain activity or the inability to do such a task without risk to well-being. If one knows the oxygen consumption required for a certain work activity and the subject barely achieves such a level of power output, it will be obvious that the subject is disabled with regard to

this activity. Furthermore, ideally, work activity should not demand more than 40 to 50% of a person's maximal oxygen consumption on a consistent basis. Another value of the  $\text{VO}_2$  Max is that one can disprove or corroborate clinical impressions. METS can be determined and this is simply a convenient term which relates the resting oxygen consumption to higher levels of oxygen consumption with 3.5 milliliters  $\text{O}_2$ /kilogram/minute being baseline. With the patient's level of achievement (METS) in mind, one can precisely tailor an exercise program with regard to activities which fall within the patient's functional capacity.

#### **PREDICTION OF PARAMETERS**

Peak values for various parameters can be predicted using various formulas. Some of these entail rather large variance but can be used as a rough guide. These will be listed at the end of the paper. Case presentations will also be appended.

#### **DISABLING CONDITIONS AND THEIR HALLMARKS**

Approximately 40% of persons receiving disability have received these benefits because of heart, circulatory or respiratory disorders. Many patients may not be to the point of disability yet may be impaired or compromised somewhat by underlying cardiopulmonary disease expressed as Dyspnea. Indicators of pulmonary disease on exercise testing could include: 1) an increasing  $\text{VD}/\text{VT}$ , 2) a decrease in  $\text{PaO}_2$ , 3) achievement of predicted  $\text{VE}$  Max, and 4) elevated ventilatory equivalent. A person limited by pulmonary disease will not experience a predicted maximal heart rate for age. Conversely, a person limited by cardiac disorder may be likely to achieve a predicted maximal heart rate unless that person is also deconditioned. The latter is commonly the case. In contrast, a deconditioned person with no cardiopulmonary disease per se may not achieve either cardiac or ventilatory maximum. However, most persons who achieve a maximal heart rate are probably deconditioned rather than have organic heart disease. That is, we are limited by a compromised cardiac output related to deconditioned status. A vicious cycle can ensue in persons who chose to be inactive. As one avoids or curtails physical activity, he/she may experience Dyspnea with activity. If activity is further curtailed to avoid discomfort, one becomes further deconditioned. This fosters Dyspnea with lesser degrees of exercise than before, often prompting further

curtailment of activities. One does less and finally can do less or doing so causes Dyspnea. The majority of Dyspneic, middle-aged persons will fall into this category rather than exhibiting overt or subtle forms of cardiopulmonary disease. The differentiation of cardiac and pulmonary diseases from a deconditioned state can be aided by the aforementioned parameters. A drop in the  $\text{PaO}_2$  should indicate pulmonary disease while a low  $\text{O}_2$  pulse can imply cardiac disease or deconditioned state. Persons with pulmonary disease will often exhibit a normal  $\text{O}_2$  pulse. The ventilatory equivalent should be elevated in pulmonary disease while this ratio may also be elevated in cardiac disease characterized by interstitial edema. Maximal heart rate and ventilatory max. have already been addressed. The maximal oxygen consumption should be low in persons with cardiac or pulmonary disease while it may approach average for age in a deconditioned person. This may sound bizarre but probably is reasonable in that the "average" person is deconditioned. If one measures cardiac output, the value may be normal at rest in cardiac disease but fails to rise appropriately with progressive activity.

#### **THE GOOD NEWS**

The good news is that aerobic training can improve many of the parameters mentioned above and contribute to a state of increased well-being. Listed are potential improvements: increase in  $\text{VE}$  Max, increase in  $\text{VO}_2$  Max, increase in work performance, submaximal work performed at lower levels of oxygen consumption, decreased resting heart rate, increased stroke volume and cardiac output, increased  $\text{a-VO}_2$  difference, increased capillarization of muscle. The peak heart rate and blood pressure may be virtually unchanged. With increasing cardiopulmonary fitness, Dyspnea can be postponed or prevented at usual levels of activity. Even persons with established cardiac or pulmonary diseases can appreciate gains in these areas. In summary Dyspnea is a state of mind but also a physiologic state involving a complex of interactive processes. Clues can be gained regarding the source of Dyspnea. The patient can then be reassured, counseled or challenged. Thus we could say, "He who avoids Dyspnea becomes its slave." With the emphasis in our society on how the body looks rather than what the body can do, it is easy to avoid Dyspnea. However, it would behoove us all to become breathless several times a week.





ELECTROCARDIOGRAM

OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 126)

**HISTORY:** D. J. is a 20-year-old black female who was referred for evaluation of first degree AV block. The patient had long-term anorexia and was underweight. On physical examination, she was noted to have a physiologic S<sub>3</sub>. Her chest x-ray was normal. The patient was on no medication known to affect A-V conduction.

It was noted that the patient's PR interval was normal when her heart rate was below 60/minute, but markedly prolonged when her heart rate was above 62/minute. What do you think might be going on with respect to her A-V conduction?



Ding-Kwo Wu, M.D., and John W. Watson, M.D.  
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# Office Orthopaedics

## Amputations at the Ankle

I. Leighton Millard, M.D.\*

### Amputations at the Ankle

James Syme of Edinburgh (1799-1870) made several significant contributions to surgery through his work in the field of excisions and amputations. He was the first European surgeon to adopt ether anesthesia (1847) and the antiseptic method of Lister. Lord Lister was his best and greatest pupil as well as his son-in-law.<sup>1</sup>

In 1842 Mr. Syme was called into consultation on a 16-year-old boy with "caries of the foot". From the description in his paper,<sup>2,3</sup> this was an extensive and draining osteomyelitis. Since amputation offered the only hope of saving the patient, Mr. Syme devised a technique that has been called "the most useful of all amputations of the lower extremity because of the perfection of its weight bearing properties".<sup>4</sup> The procedure preserves the tough plantar skin of the heel as a covering for the cut end of the tibia.

In the years just before, during and right after World War II, Syme's amputation fell into disfavor and was virtually abandoned. It seems that many surgeons were using this amputation without reading and following the original article and were not happy with the results. It also became evident that fitting an articulated ankle prosthesis for these patients produced an unsightly and heavy artificial limb that amputees were reluctant to wear. World War II produced large numbers of foot and leg injuries, mostly land mine explosions, that were not amenable to treatment by Syme's procedure. In the Mediterranean Theater 424 amputations of the lower  $\frac{1}{3}$  of the leg were performed in the years 1943-1945.<sup>5</sup> Of these, only eight were at the level of the ankle joint.

In recent years a return to the classic procedure, the development of new and better prosthetic materials, and the use of a two stage surgical technique (in dysvascular patients)<sup>6</sup> have been responsible for a rise in the popularity of Syme's amputation.

In Figure I, the rounded, toughened weight-bearing end of the stump is evident and Figures II, III and IV demonstrate the relatively slim, lightweight prosthesis that allows this patient to have a nearly normal gait.



Figure 1

\*Little Rock Orthopedic Clinic, 9500 Lile Drive, P. O. Box 5270, Little Rock, Arkansas 72215.



### Conclusion

In the modern surgical world the Syme procedure affords the surgeon an opportunity to provide a functional, durable and cosmetically acceptable amputation for traumatic, infectious or dysvascular problems of the foot.

### BIBLIOGRAPHY

1. Garrison, Fielding H.: History of Medicine. W. B. Saunders, 4th Ed., 1966, p. 482.
2. Bick, Edgar M.: Classics of Orthopaedics. Lippincott, Philadelphia, 1976.
3. Quarterly Report of the Edinburgh Surgical Hospital. Edinburgh Medical and Surgical Journal, 1842.
4. Harris, Toronto, Director General of Medical Services of the Canadian Army. Iss. 2.
5. Hampton, O. P., Jr.: Orthopedic Surgery in the Mediterranean Theater of Operations. Office of the Surgeon General, Department of the Army, Washington, D. C., 1957.
6. Wagner, F. W.: Amputations of the Foot and Ankle Clinical Orthopaedics, 122, Jan.-Feb. 1977, p. 62.



Figure 3



Figure 2



Figure 4



## Serum Sickness in a Child Treated with Cefaclor

Tony Johnson, M.D.,\* Cindy Stern, B.S.,\*\* and Charles Feild, M.D.\*

Cefaclor, first introduced in the United States in 1979, is widely used in pediatric practice. Blood levels achieved after an oral dose are not as high as for cephalixin, but increased activity against gram-negative bacilli, especially beta lactamase-producing *H. influenzae* makes it a useful antimicrobial in treating children with otitis media and respiratory infections.<sup>1</sup> We wish to report a child who experienced serum sickness after receiving cefaclor.

### Case Report:

N. M. is a 19-month-old girl with no previous history of allergies who presented to the emergency room with acute onset of joint swelling and a rash. She had been treated for the previous three weeks with cefaclor and polyhistine for bronchitis. Examination revealed hot, swollen knees with full range of motion and only minimal tenderness. The dorsum of the right foot was also swollen and hot. A nonspecific erythematous rash was also present on the back, chest and diaper area. She was afebrile, appeared well, and had continued to play normally. All medications were stopped and on reexamination, 12 hours later, she had resolution of the swollen knees, however, her right foot, left forearm and hand had become swollen and hot. The rash had become urticarial, involving the entire body, including the face. The temperature was 38.6 C and she was slightly irritable. She was given Decadron, 2 mg IM and started on Benadryl PO with a gradual resolution of symptoms over the next week. Reexamination two weeks later was completely normal.

She had previously received amoxicillin without difficulty, however, the parents did not know if she had taken cefaclor before.

Cefaclor has been reported to cause serum sickness in children and adults. All cases involve

arthritis, primarily knees and ankles, and a pruritic urticaria. Purpura has also been reported. One "cluster" of eight patients in one community who developed serum sickness after receiving cefaclor for otitis media has been reported.<sup>2-4</sup>

Serum sickness is a type III hypersensitivity; i.e. antigen in excess of antibody forms immune complexes which are then deposited along vascular basement membrane usually beginning after several days of therapy. As antibody production increases and peaks, immune complexes are subsequently cleared. In children, it is usually a mild and self-limited disease, although nephritis and polyneuritis can occur. The erythrocyte sedimentation rate is frequently normal, although a mild eosinophilia, especially in drug-related cases, can be seen. In mild cases, aspirin and antihistamines may be used to treat the arthritis and pruritis. In more severe cases, corticosteroids are effective and should be used.<sup>5,6</sup>

Hypersensitivity reactions are the most common systemic side effects of cephalosporins. In addition to the above manifestations, anaphylaxis and acute bronchospasms may occur as life-threatening complications. As with any other drug, avoidance of prolonged treatment in the absence of clear-cut indications and prompt discontinuation of the drug in the face of complicated side effects followed by close monitoring will minimize undesirable results.

### REFERENCES

1. Goodman and Gilman: *The Pharmacologic Basis of Therapeutics*. New York, New York, McMillan Publishing Co., 1980, pp. 1156-1157.
2. Ackley, A. M., and Felsher, J.: Adverse reactions to cefaclor. *S. Med. J.* 74:1550, 1981.
3. Lovell, S. J., and Reid, W. D.: Serum sickness with cefaclor. *CMA Journal* 126:1032, 1982.
4. Murray, D. L., et al: Cefaclor—a cluster of cases. *N. Engl. J. Med.* 303:1003, 1980.
5. Jacobs, J. C.: *Pediatric Rheumatology for the Practitioner*. New York, New York, John Wiley and Sons, 1982, pp. 61-65.
6. Cassidy, J. T.: *Textbook of Pediatric Rheumatology*. New York, New York, John Wiley and Sons, 1982, pp. 61-65.

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## EDITORIAL

# Johnson and Palacios on Dilated Cardiomyopathies

Alfred Kahn, Jr., M.D.

There has been a tremendous amount of literature published on cardiac diseases in the recent past; the main thrust of the literature has been directed toward arterio-sclerotic heart disease which is rampant in civilized countries—and apparently related to life style. One of the areas of cardiac disease which has received much less attention because it is less prevalent, is a group of disorders called dilated Cardiomyopathies. Johnson and Palacios have written an extremely interesting two-part article in *The New England Journal of Medicine* entitled “Dilated Cardiomyopathies of the Adult” (*The New England Journal of Medicine*, Vol. 307, page 1051, Oct. 21, 1982). They define cardiomyopathies as an illness of the heart characterized by a disorder which affects either or both of the cardiac ventricles—and is capable of producing myocardial insufficiency. This is a rather loose definition as, strictly speaking, it should mean any disease of heart muscle—from a purely linguistic point of view. In this disorder, they include both idiopathic cardiomyopathies and cardiomyopathies produced by other diseases. Johnson and Palacios classify the cardiomyopathies as dilated, nondilated, or hypertrophic. They have limited their article to the dilated cardiomyopathies which are sometimes known as congestive in contrast to the nondilated cardiomyopathies which may be called restrictive. There is no other common name for the so-called hypertrophic cardiomyopathies.

They state that the commonest physiologic features of the dilated cardiomyopathy group is a decrease in the amount of blood ejected from the left ventricle; they further state that symptoms of heart failure do not appear unless the output falls below 40%. In this particular disorder, the right ventricle may have a fall in the ejection fraction also. It is of interest that they say that

“left ventricular dilation and a greatly reduced left ventricular ejection fraction are more consistent features of dilated cardiomyopathies than is decreased cardiac output”. The article does not offer any explanation as to why right or left cardiac failure occurs in a completely capricious fashion, varying from patient to patient. Mitral regurgitation may occur in this disorder and is said to be fairly commonplace.

The cause of dilated cardiomyopathies can be the result of various idiologic features including multiple infarctions, alcoholic, peripartum disease, valvular disease, inflammatory myocarditis, sarcoid heart disease, poisoning, uremia, metabolic disorders, and hemochromatosis. Johnson and Palacios state that the pathologic findings in idiopathic congestive cardiomyopathy, alcoholic cardiomyopathy, and peripartum cardiomyopathy is identical with dilatation of the various chambers of the heart—one to four; they may have endocardial scarring; the anulus around the valves may dilate; mural thrombosis may be present; there is myocardial scarring; there is hypertrophy of the muscle cells. Of practical importance is the fact that the coronary arteries are normal in these cases, a point which is often reported in cardiac catheterization studies in general hospitals. The intracellular pathology as visualized by the electromicroscope is non-specific in these dilated cardiomyopathies. Johnson and Palacios speculate that faulty nutrition may play a role in so-called idiopathic congestive cardiomyopathy. They discuss the possibility that the footprint of infection of the heart is sometimes congestive cardiomyopathy but this is often difficult to trace back in a fashion adequate to actually pin-point the diagnosis. Appropriate studies of the ventricular wall in this disorder show areas of hypokinesis and akinesis; they seem to inter-

mingle and have a non-specific appearance. The authors report a variety of electrocardiographic changes as being part in any pathological cardiomyopathy including left bundle branch block, poor precordial R-wave progression, P-Wave changes and others. Q-Waves may be present. In these idiopathic congestive cardiomyopathies is often associated with heart failure and embolism. The prognosis of survival is poor and it is said that, depending on the article, that only 25-40% of the patients with this disorder live for five years after diagnosis. Johnson and Palachios state that the more severe the heart failure, the worse the prognosis is and if there is right-sided failure as well as left-sided heart failure, the prognosis is worse. The authors report some interesting miscellaneous facts among them being that the thicker the myocardial wall, the better the prognosis in some instances and sudden death may occur in up to half the cases.

The authors believe that vigorous treatment is desirable in idiopathic congestive cardiomyopathy as well as the two other forms discussed here—alcoholic and peripartum. They include diuretic drugs, restriction of salt, avoidance of hypokalemia and Digitalis. The use of Warffarin is included to decrease the possibility of having a serious embolus. Anti-rhythmic drugs may be necessary to prevent fatal cardiac arrhythmias and the anti-rhythmic drugs such as quinidine and procainamide are considered safe; beta-adrenergic blocking drugs are not considered safe in this disorder. Cardiac transplant has been used on patients with dilated cardiomyopathy with success. The authors have included a discussion about alcoholic dilated cardiomyopathy in their article and they feel that alcohol does produce the disorder. They further state that abstinence from alcohol tends to cause the disorder to clear up in as many as 80% of the cases. There is a very brief discussion of peripartum cardiomyopathy which indicates that there is a 50% chance of complete recovery from this disorder; the other 50% of the cases follow the course of idiopathic dilated cardiomyopathy.

Cardiomyopathy may be the result of multiple infarctions resulting from coronary artery disease and the survival rate is said to be about the same as in idiopathic dilated cardiomyopathy. The treatment for dilated cardiomyopathy resulting from coronary disease is the same as in idiopathic dilated cardiomyopathy.

The authors report many infectious causes of acute dilated cardiomyopathy. They include coxsackievirus, enterovirus, poliovirus, arbovirus, toxoplasmosis, infection with trypanosoma, varicella, variola, influenza, rabies, cytomegalovirus, mumps, psittacosis, cryptococcus neoformans, candida albicans, trichinella spiralis, schistosoma mansoni, corynebacterium diphtheriae, the neisseria form of meningitis, leptospira, etc. They report that the past studies are made of the so-called enterovirus epidemics; and they state that 5-15% of adolescents and adults have some evidence of cardiac involvement during these epidemics. Apparently, one of the herald signs of cardiac involvement is muscle pain. Pericarditis may be seen in association with these infections. The outcome of these cases is either mild heart failure or dilatation of the heart without heart failure and rapid recovery—or progressive heart failure. The function of the ventricles in these cases can be studied by ventricularography which only shows segmental hypokinesis. The pathology of enteroviral dilated cardiomyopathy has been demonstrated in humans and animals and it is said that an acute inflammatory reaction may occur with neutrophil infiltration followed by monocyte infiltration. Necrosis may occur in cultures and said to be possible for the first 7-10 days of involvement. It is difficult to diagnose viral involvement of the myocardium. Johnson and Palacios state that a four-fold increase in specific serum antibody is meaningful as is a positive culture. Myocardial biopsy is used in some cases. Johnson and Palacios recommend close observation of patients suspected of having infectious disease of myopericarditis and state that often these cases should be hospitalized. They restrict physical activity, analgesics as aspirin or idomethacin and symptomatic treatment. They also use Digitalis and diuretics. Occasionally, a patient has a disease in which there are two episodes of cardiac symptoms: (1) in which there is an acute infection of the myocardium, and the other (2) in which symptoms recur and may be the result of an immune reaction. Apparently, there is no fixed body of opinion as to the value of treating the presumed immune reaction.

Johnson and Palachios discussed in this interesting article some of the more common causes of the dilated cardiomyopathies. Trypanosomiasis is such a disorder—of course, this is uncommon in the United States; most of the findings are in the



chronic phase and consist largely of electrocardiographic changes at first—and later functional changes appear. Sarcoid disease may affect the heart and cause a dilated cardiomyopathy. This is difficult to diagnose. Anthracycline has been implicated in cardiomyopathy and there is evidence to feel that it is irreversible but it may not be progressive either. Uremic cardiomyopathy may be reversible or not; it seems to exist in two forms. The authors gave a complete list of some of the rare causes of dilated cardiomyopathies including: tuberculosis, cobalt poisoning, phosphorous poisoning, sulfa drugs, heroin, lupus erythematosus, radiation, rheumatoid disease, collagen disease, etc. The authors include some information to enable the physician to distinguish between dilated cardiomyopathy and other types of cardiomyopathy. They recommend trying to distinguish

between the different types of cardiomyopathy because the different ones have different idiologic backgrounds—and thus require different treatment. The classification is actually based on the volume and ejection of the left ventricle—and this can be studied by radionuclides or echocardiography.

The differential diagnosis to be sure that one really has dilated cardiomyopathy from other disorders with similar appearances was discussed and the authors have a chart of a screening procedure to try and help distinguish idiopathic congestive cardiomyopathy from reversible causes of dilated cardiomyopathy. This seems especially helpful.

All in all, it is a most instructive and most informative review.



## "From Other Years"\*

*Journal of the Arkansas Medical Society*

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### INDEPENDENCE COUNTY MEDICAL ASSOCIATION.

The Independence County Medical Association held its regular meeting here on Monday. There were about eight members present, and in the absence of President Hodges, Vice President C. C. Gray presided. No papers were read, and the meeting was devoted principally to discussing arrangements for the meeting of the State Medical Society here next month. The following officers were elected for the ensuing year: President, Dr. R. C. Dorr; first vice president, Dr. D. C. Ewing; second vice president, Dr. H. G. Logan; treasurer, Dr. W. B. Lawrence; secretary, Dr. J. W. Case.

Dr. C. P. Meriwether, of Sulphur Rock, who recently graduated at the Missouri Medical College, was made a member of the Association.

Drs. W. T. James, Clint P. Meriwether, Henry Dixon, James Dorr and J. B. Crane were elected delegates to the State Medical Society.

The executive committee, charged with the duty of making arrangements for the meeting of the State Society is composed of Drs. W. B. Lawrence, J. W. Case, R. C. Dorr, C. C. Gray and F. E. Jeffery.—[*Batesville Guard*.]

The eighth meeting of the Southwest Arkansas Medical Association, held at Hope, April 4th, was well attended and several interesting papers were read.

The officers of the Sebastian County Society are J. G. Eberle, M.D., president; J. D. Southard, M.D., secretary, and J. W. Breedlove, M.D., treasurer.

Phillips County was inadvertently omitted from the Committee on State Medicine. Dr. J. A. Linthicum is the member of the committee from that county.

From the University of Arkansas for Medical Sciences Library, History of Medicine/Archives.

## MEDICINE IN THE NEWS



### THE MONTH IN WASHINGTON

#### HEALTH CARE FOR THE UNEMPLOYED GETS FEDERAL ATTENTION

State and county medical societies from across the nation and several national specialty societies received accolades from Washington luminaries—including President Ronald Reagan and his budget chief David Stockman, Rep. Henry Waxman (D-CA) and Senator Robert Dole (R-KS)—for their voluntary efforts to provide free and low-cost medical care to the nation's unemployed.

In White House ceremonies commemorating National Volunteer Week, medical society representatives told President Reagan and Vice President George Bush about their programs for “newly needy” patients who are ineligible for Medicare and Medicaid, have no health insurance or are otherwise unable to pay. The projects included free clinics, health screening, and low-cost medical services including surgery.

AMA President William Y. Rial, M.D., presented President Reagan with a report on 24 medical societies known to have created health programs for the unemployed. Many more physicians and physicians groups are believed to be providing such care, however.

In hearings in both the Senate and the House, American Medical Association Board of Trustees Chairman Joseph Boyle, M.D., reported that 79% of physicians surveyed last fall by the AMA's Socioeconomic Monitoring System indicated they had treated patients who had lost their job-related insurance. Some 71% of these provided care without charge or at a reduced fee and 10% of all physicians were donating their services to some community program to care for the unemployed.

Stockman cited those figures in testimony before the Senate Finance Committee and said that encouraging the expansion of these activities will form one leg of the Reagan Administration's approach to aiding those who have lost job-related health insurance.

The Administration's proposal, which will be used as a bargaining position rather than intro-

duced as legislation, focuses on increasing the unemployed's access to health care rather than helping them pay for it. It would require employers and insurers to allow the terminated worker to buy into his former employer's health plan or to pick up benefits in his company plan that were previously rejected because they were covered by the plan of a now-unemployed spouse.

The OMB chief acknowledged that there is a “residual group of long-term unemployed” who can't afford to buy coverage and aren't eligible for public programs. If Congress wants to create new benefits for the unemployed, it should aim them at this group and must include the means for paying for them in the same legislation, he said, preferably by tightening the Administration's proposal cap on the amount of employer-paid health benefits that are non-taxable to the employee.

White House support, limited as it is, for some sort of action to help the jobless obtain health insurance increases the chances of speedy passage of some sort of bill in this area.

Not counting the Administration proposal, six plans have been introduced as legislation. All the bills would limit eligibility to those who formerly were covered through an employer health plan and who either are eligible for or have run out of unemployment benefits.

★ The first bill, S. 307, was introduced by Sen. Donald Riegle (D-MI) with Sens. Howard Metzenbaum (D-OH) and Carl Levin (D-MI). Its cost, according to the Health Insurance Association of America, would run about \$3 billion a year.

Also introduced in the House as H.R. 1823 by Rep. Doug Walgren (D-PA), the legislation would set up permanent state insurance pools financed by employer contributions, by employees' payment of up to 20% of premium cost, and by a 40%-of-premium federal contribution that would kick in whenever unemployment nationally was 7.5% or more and the state had an unemployment rate at least 10% higher than the national average.

Benefits would have to be at least equal to Medicare. Enrollees could be required to pay up



to \$500 in deductibles. Employers would be required to extend coverage to workers for six months after layoff and to allow workers to pick up coverage for themselves or family members formerly covered under the employer plan of another family member that is no longer employed.

★ S. 811 was introduced by Pennsylvania Republicans John Heinz and Arlen Specter as free-standing legislation after Sen. Robert Dole (R-KS) persuaded them not to try to attach it to recently-enacted Social Security amendments. S. 811 would run for three years and would cost the federal government \$1 billion a year in block grants to states, which would determine benefits and the method of administration. Benefits could vary according to the enrollee's financial status. Funds to the states would be based on the relative numbers of unemployed in the state compared to the national rate, of unemployed workers in excess of 6% of the civilian labor force in the state, and of state residents unemployed 15 months or more.

★ S. 951, the least expensive bill introduced to date, was designed by Senate Finance Committee Chairman Dole and is cosponsored by Heinz and Specter along with Sen. David Durenberger (R-MN). The measure would provide \$900 million a year to states which set up programs run through their Medicaid agencies. The program would die after two years.

Prior to October 1, 1983, the Dole measure would provide funds to any state program. But after that time, federal funds would go only to states with uninsured unemployment rates (rates of unemployed people covered by unemployment compensation) of 4% or more. Those with rates of more than 5% would receive 95% federal matching. Those between 4% and 5% would get 80% matching.

Benefits would have to include hospital inpatient and emergency outpatient services and physician services except those delivered in nursing homes. Duration and scope of services would be up to the state but could not exceed those of its Medicaid program for the categorically needy. Employers would be required to pick up coverage formerly carried through a now-unemployed spouse.

★ S. 1154, the most recent bill, was introduced by Sen. Edward Kennedy (D-MA) and the other seven Democrats on the Labor and Human Resources Committee. It would provide \$900 million

for the rest of fiscal 1983 and \$2.7 billion a year for each of the next three years in block grants to states. States would determine the method of administration and benefit levels. The unemployed could not be charged more than 5% of their unemployment check for premiums or co-payments for services. Allocation to the states would be based on a formula similar, but not identical, to those in the Heinz-Specter bill.

Two bills introduced in the House are designed to come in at a cost of around \$2.7 billion since that is exactly how much money the House budget resolution provides for health insurance for the unemployed.

★ One of these, H.R. 2525, was crafted by Rep. Henry Waxman (D-CA). Cosponsored by Andy Jacobs (D-IN), John Dingell (D-MI) and Harold Ford (D-TN), it would create a permanent block grant program to be run through state Medicaid agencies or, at the state's option, through state insurance pools.

Coverage would be limited to nine days of inpatient hospital care and 10 physician and outpatient visits per person but there would be no limits on well-baby and maternal care. Enrollees could be required to spend at least 5% of their weekly unemployment check for the benefits and could be charged copayments equivalent to those of Medicaid.

States with unemployment rates 33% higher than the national average would get full funding from the federal government. Those with employment levels of 5% or less would get no federal money and those in between would get matching funds of up to 95%. A permanent grant program would be set up for public hospitals.

★ Coming in at the same \$2.7 billion price tag is S. 2538. Introduced by Rep. David Obey, (D-WI) and Joe McDade (R-PA), this bill would set up a one-year, \$2.7 billion block grant program with states' shares allocated according to the cost of health services and the level of unemployment in the state. States would have to put up 20% in matching funds and unemployed workers would pay up to \$5 a week.

In hearings before Dole's Senate finance committee and Rep. Waxman's health subcommittee, the American Medical Association called for a temporary federal program to supplement the private sector efforts. AMA Board Chairman Joseph Boyle, M.D., and AMA Executive Vice President James Sammons, M.D., assured Dole

that the physicians invited to the White House to discuss their free care programs had conveyed this support to the President. And Dr. Sammons and James Strain, M.D., of the American Academy of Pediatrics, urged finance committee members to make sure that any program eventually enacted not discriminate against office-based and preventive services.

Health insurers also described voluntary efforts to help the unemployed obtain coverage but conceded that most of these programs are outside the financial reach of many jobless families. United Auto Workers representative Mel Glasser added that only 5% of UAW members in Michigan exercised the conversion option because they could not afford to pay \$200 in premiums out of a \$700 monthly unemployment check.

The insurers endorsed a federally-funded program to aid the jobless who need health insurance but reported that many employers are also voluntarily permitting workers to add family members formerly covered under a laid-off spouses plan to the working spouse's coverage.

Several of the bills under consideration, including Dole's and the Administration's proposal, would require employers to do this and the White House claims this approach would make a significant dent in the problems of the uninsured jobless because "an estimated 40% of workers drawing unemployment benefits have working spouses."

Business groups also noted that many of their members have extended coverage or permitted the enrollment of jobless spouses in working spouses plans. Chamber of Commerce witness Jan Ozga, in the only testimony to completely reject any federal action, said those voluntary efforts are sufficient.

One thing appears to have been conceded by all the major players. That is that the federal support will have to be confined to those who are eligible for unemployment insurance or have run out of benefits, who previously had employer-based coverage, and who aren't eligible for Medicaid or other coverage. That will leave many unemployed without health coverage, a fact lamented by Rep. Waxman and Sen. Heinz, who observed that a more expensive bill would court a Presidential veto.

There is less agreement about how the measure will be financed and how long it will run. The Waxman and Riegle proposals set up permanent

programs. The unions contend this is necessary since unemployment rates are not expected to dip below 8% before 1988. Dole's plan would last for only two years and Specter and Heinz' only three years. AHA's Owens told Waxman he believed Waxman should add a sunset provision to his bill and AMA's Boyle also called for a temporary program.

Like the Administration, Sens. Dole and Durenberger, appear to be considering financing through a cap on the amount of employer-paid health insurance premiums that are nontaxable to employees. AFL-CIO official Ray Denison said that would be "robbing Peter to pay Paul," drawing a retort from Dole that union members with jobs should be willing to help those who don't. Insurers and business also opposed financing health insurance for the unemployed through a tax cap.

All bills permit at least some sharing of the premium and cost of services by the unemployed and while most witnesses had no philosophical objections to that approach, many believe it is unrealistic to expect families living on an unemployment check to contribute to the cost of coverage.

There was even less agreement about how the program should be administered. The HIAA and AMA supported the state pool approach in Waxman and Riegle bills but unions opposed it.

Hearings in the House were expected to lead to a bill that Waxman intends to rush through the House before summer. Dole, meanwhile, expects to complete his Senate package before summer's end.

#### CONGRESS BREATHES NEW LIFE INTO "BABY DOE" RULING

The Health and Human Services (HHS) regulations designed to protect infants with birth defects was struck down in Washington's federal District Court in April. But the "Baby Doe" controversy showed no signs of quieting as Congress and several states took up the issue in pending and proposed legislation.

U. S. District Court Judge Gerhard A. Gesell ruled that the regulation—which required hospitals to post notices in delivery wards and nurseries publicizing a 24-hour toll-free 'hotline' to be used in cases of suspected neglect—was "arbitrary and capricious."

The American Academy of Pediatrics, a plain-



tiff in the case, had argued that the rule was wrong in both principal and procedure. This position was supported by the AMA in an amicus brief. Four member investigative squads, alerted by calls on the hotline, have no role in medical decision-making, they said. Plus the regulation went into effect within only 15 days rather than allowing the customary public comment period.

HHS attorneys said the rule did not interfere with medical decision making; instead, it simply intervened when parents' emotional or financial concerns took precedence in these medical decisions. HHS immediately announced it would appeal the case.

As hospitals were removing these notices from their walls, Congress began drafting new legislation that could achieve much the same result. Both the Senate and House worked on bills that would expand the Child Abuse Prevention and Treatment Act to include handicapped infants who are denied food or treatment. House bill H.R. 1904 and Senate bill S. 1003, both amendments to the Act, call for a study to investigate the national incidence of 'neglect'; technical assistance and training to states to develop new procedures to ensure that food and care is provided to handicapped infants; establishment of a procedure for persons to report suspected instances of denial of food or treatment; and to open up adoption opportunities for handicapped infants.

Meanwhile, several state legislatures have already drafted their own versions of Baby Doe legislation. Indiana law says that children denied food or treatment shall be considered "in need of services," a classification normally used for abused children. Louisiana's stricter law prohibits any denial of food or treatment except in cases where the child would stay in a permanently comatose state or where the risks outweigh the benefits of treatment. California's resolution with 'intent' to protect handicapped newborns has less legal clout. At least four other states—Massachusetts, Arizona, Missouri, and Maryland—have legislation pending.

Supporters of these efforts say they will throw a safety net under the gaping holes in health care for handicapped children. "In the past 10 years, there has been a gradual shift in medicine away from protecting these children," said Surgeon General C. Everett Koop, a pediatric surgeon. "The President, Justice Department, and Depart-

ment of Health and Human Services all agree that the present system is not adequate."

But opponents fear that the rule will force physicians and hospitals to either override parental direction, lose federal funds, or violate state and federal laws. Some say Baby Doe legislation is just another way of furthering the right-to-life goals of the Reagan Administration.

The AMA, while supporting reauthorization of the Child Abuse Act, opposes any provisions relating to the care of handicapped infants.

Mailgrams describing these provisions were rushed to state medical societies and national specialty groups. The Association believes that such legislation would cause government interference in family and physician decision-making and result in a cumbersome process that would benefit no one.

"Once a government agency has interjected itself into the practice of one medical specialty, that kind of interference could be expanded into other specialties," warns James H. Sammons, M.D., Executive Vice President of the AMA. "Then each of us—physicians and patients—would have our decisions subjected to review."

#### **NO MORE CUTS THIS YEAR IN MEDICARE?**

The likelihood that Congress will make any more major cuts in Medicare this year diminished in April as the Senate Budget Committee approved a 1984 budget plan that contains less than half the Medicare reductions the Reagan Administration has proposed.

The Senate was expected to consider the budget panel's recommendations early in May and, although changes could be made on the Senate floor, most congressional observers did not think that the final resolution for fiscal 1984 would call for Medicare savings substantially higher than those in the committee's proposal.

The Budget Committee's proposal set Medicare savings at \$824 million in fiscal 1984 and \$9.6 billion over the next five years. This would be in addition to some \$10.5 billion in savings projected from the diagnosis-related-groups (DRGs) prospective payment plan enacted earlier this year.

The Senate panel's proposal fell far short of the \$1.9 billion in fiscal 1984 cuts and \$24.8 billion in five-year savings proposed by the Reagan Administration. It is, however, more severe than a House-approved budget resolution that limits Medicare savings to those anticipated from DRGs.

Thus, a House-Senate conference to resolve differences between the two proposals is virtually assured. Once final House and Senate action on the budget resolution is completed, the Senate Finance Committee will be assigned the task of recommending program changes to produce the required reductions in spending. It will be looking at two major recommendations:

- ★ To freeze fee allowances for physicians who do not accept Medicare assignment;

- ★ To increase premiums for supplemental medical insurance (SMI). SMI premiums are set at 25% of program costs through 1985. Under the Budget Committee's proposal, the Part B premium would remain at 25% for individuals whose annual incomes are less than \$25,000 a year and for couples with incomes of less than \$32,000. For those with incomes over those levels, the premium would be increased to 40% of cost.

This would be the first "means test" in Medicare and the income levels are identical to those included in the recent Social Security amendments to determine which beneficiaries will be taxed on benefits.

The recommendation to freeze the fees of physicians who don't accept assignment would produce an estimated \$730 million in savings next year and \$4.9 billion by fiscal 1988. Increasing the premium for SMI would not generate any savings in fiscal 1984 but would save \$3 billion by fiscal 1988.

For Medicaid, the Senate Budget Committee approved cuts of \$102 million in fiscal 1984 and \$3.3 billion over five years. This compares with \$293 million in fiscal 1984 and \$3.1 billion in five-year cuts in the Administration's plan. The House resolution provides additional money to Medicaid—for a child health assurance program.

For discretionary health programs, the Senate budget panel approved \$126 million more than the President is requesting. Most of that is for four health block grants.

#### **BIOETHICS COMMISSION DIES**

The presidential commission entrusted with formulating national policy on medicine's life-or-death issues finally died a quiet death of its own.

But members of state and local medical communities say they will pick up where the president's commission left off, adapting its guidelines to fit their own day-to-day problems. The American Medical Association, the American Hospital

Association, several specialty societies, and many hospitals have already formed ethical committees.

Supporters of the President's Commission for the Study of Ethical Problems in Medicine say that it may reappear in a less political arena such as the National Academy of Sciences, Hastings Center, or the Kennedy Institute at Georgetown University. If this proposal succeeds in winning House and Senate approval, the commission may begin work as soon as October 1.

Already, the commission's guidelines have influenced health policy. Its definition of death has become law in 13 states and the District of Columbia. Hundreds of hospitals have requested copies of their report describing the decision not to resuscitate. And the Association of American Medical Colleges in reviewing ways to improve the communication skills of future physicians, based on a commission recommendation.

The American Medical Association has created a four-man panel of bioethical specialists to help guide the AMA's Judicial Council. "We regret the recent disbanding of the commission. But there will not be a vacuum. They laid the groundwork, but our panel of specialists has the muscle to get these recommendations into place," says Samuel R. Sherman, M.D., vice chairman of the Judicial Council.

The American Hospital Association (AHA) has also formed a special committee on bioethics, which will review issues such as the denial of care. The AHA generally supports the commission's reports, but believes solutions to ethical problems will not be found on a national level. "Policy development should be made at the local level, by the medical and nursing staff, according to individual circumstances," says an AHA spokesman.

Bioethical committees within specialty societies are setting procedural guidelines for the routine decisions their members must make. For instance, the ethical committee of the American Academy of Neurology has tackled the issue of caring for patients in the 'vegetative' state; the American Academy of Pediatrics held a recent seminar on treatment for the handicapped infant; and the American College of Obstetrics and Gynecology is discussing surrogate mothering, artificial insemination, and distribution of contraceptives to minors.

"Doctors need to take a leadership role in ethical issues," says neurologist Ronald E. Cranford, M.D., of Hennepin County Medical Center in



Minneapolis. "If we don't want the simplistic directives of the federal government, we'll have to become involved. Either we can change the laws or they can change us."

# **ORGAN TRANSPLANT REIMBURSEMENT RULE DECRIED BY PARENTS/PHYSICIANS**

From across the country, parents and physicians of children needing liver transplants arrived in Washington to urge changes in federal reimbursement and organ procurement systems.

Recent medical advances have made liver transplants an increasingly successful form of surgery. The recent introduction of cyclosporine has boosted survival rates to 60-70%, they told the House Science and Technology Committee's Subcommittee on Investigations and Oversight.

But the most recent federal assessment—back in 1980—gives patients only a 38% chance of survival. So until the government hears new recommendations at an NIH Health Consensus Conference in June, liver transplants will keep their "experimental" status.

"Trust monies should only be spent on reimbursement for procedures and care generally accepted by the medical profession as safe and efficacious," said Carolyn K. Davis, Ph.D., administrator of the Health Care Financing Administration. Added Surgeon General C. Everett Koop: "The fact that liver transplants have 'come of age' doesn't mean it is an open-and-shut case. We still don't know the proper criteria, or long-term complications of immunosuppressive drugs."

"I find this extremely frustrating," challenged subcommittee chairman Albert Gore, Jr. (D-TN). "The government bureaucracy absolutely refuses to recognize the obvious, and instead relies on their slow process of cranking towards a decision. How quickly will government bureaucrats adjust to progress?"

"We need a more timely and responsive mechanism for assessing new medical technologies. It seems unfair to deny children transplants, given the evidence," added Myron Genel, M.D., health policy fellow for the subcommittee.

For Capt. John M. Brokerick of Minden, LA, denial of coverage means that his 2-year-old daughter Adriane may die of biliary atresia. "CHAMPUS will pay for her to die in a hospital but not for the operation that will save her life. When a transplant becomes necessary, I am on my own for the bills," he said. Parents of two

children who died after being denied coverage are now suing CHAMPUS.

Charles Fiske of Bridgewater, MA, who launched a massive media campaign to find a liver for his daughter, Jamie, called it "the tin cup syndrome."

Even when money is available, donors often are not. At the University of Pittsburgh, physicians performed 111 liver transplants in the past two-year period. During this time, another 54 patients died while waiting for a donor liver.

Very few organs from victims of sudden death can be utilized under current laws, complained David K. Wiecking, M.D., a medical examiner in Richmond, VA. Most laws state that permission from the next-of-kin must be obtained. This permission requirement causes time delay and makes the organ useless for transplant.

Wiecking recommends giving local medical examiners and coroners the right to routinely obtain organs during autopsies. "Then the transplantable organs could be used in a systematic and expeditious method," he said.

Asking the public to sign 'yes' or 'no' boxes on their drivers licenses, without the need for witness, could encourage other donations, said G. Melville Williams, M.D., professor of surgery at Johns Hopkins.

There is little commitment by physicians and nurses to locating donors, added Donald W. Denny of the Transplant Foundation at the University of Pittsburgh. Health professionals must be trained to recognize and refer potential donors, he believes. The North American Transplant Coordinators Organization now has a 24-hour telephone hotline for physicians who have questions or who want to refer donors but do not know how to contact local procurement programs.

The House Committee on Science and Technology—possibly together with the House Committee on Energy and Commerce—will make recommendations later this spring on ways to speed the public's access to organ transplants.

# **AMA HIGHLIGHTS HEALTH PROMOTION TO CONGRESS**

In an unusually friendly Congressional hearing April 26, AMA Board Chairman Joseph F. Boyle, M.D., got the chance to regale the Senate Committee on Labor and Human Resources with organized medicine's concerns and actions in the areas of disease prevention and health promotion.

Invited to testify by Committee Chairman Orrin G. Hatch (R-UT), Dr. Boyle ticked off a long list of projects and programs undertaken by AMA and physicians over the years that have extended the lifespan of Americans and made this one of the healthiest nations in the world. Among the current projects Boyle cited:

A strong public information and public service program that emphasizes public awareness of health hazards and encourages healthful lifestyles;

The massive publications and information exchange program of AMA and other medical groups ranging from the *Journal of the American Medical Association* to the frequent scientific conferences on health each year;

Support of public health through legislative and regulatory activities in areas like alcohol and drug abuse, food additives, drunk driving, immunization, cigarette safety and smoking, and prescription drug abuse.

#### **TIGHTER RULES FOR PACEMAKER IMPLANTS**

In response to a Senate investigation last year that revealed many needless implantations of pacemakers, the Health Care Financing Administration has announced a clampdown on pacemaker implantation under Medicare.

Seven conditions are now considered inappropriate for implantation, and will not be reimbursable:

- ★ syncope of undetermined cause;
- ★ sinus bradycardia without significant symptoms;
- ★ sinoatrial block or sinus arrest without significant symptoms;
- ★ prolonged R-R intervals with atrial fibrillation or with other causes of transient ventricular pause;
- ★ bradycardia during sleep;
- ★ right bundle branch block with left axis deviation without syncope; asymptomatic second-degree AV block.

As techniques in cardiology change, judgements about implantation also will change, HCFA promises. But physicians warn that scrutiny of the newer and most sophisticated pacemakers should continue.

"Of course, we need to decide when to appropriately implant the pacemaker. But we should also decide what type of pacemaker we're implanting. Brand new multiprogrammable or AV sequential

pacemakers can cost between \$4,000 and \$5,000. We need to decide: Do all patients need these? When are they justified?" says Howard S. Friedman, M.D., of Brooklyn Hospital.

#### **... AND FOR SPECIMEN TESTING**

Many health care providers are inappropriately sending specimens to the Centers for Disease Control laboratories in Atlanta, GA, because this testing is performed free of charge.

CDC's program is intended to be only a backup—or reference—testing service. Yet an estimated 46% of specimens tested at CDC should have been tested first at state or commercial facilities, says an April report from the U. S. General Accounting Office. This cost federal taxpayers \$1.9 million.

An estimated 13% of DCD specimens were tested without any information concerning patient condition or treatment. Thus, CDC testing may cause more elaborate or less precise tests to be performed than would be suggested by the patient's signs and symptoms.

The General Accounting Office has recommended to Health and Human Services Secretary Margaret Heckler that the CDC:

- ★ screen out all diagnostic tests that should be performed elsewhere;
- ★ not accept specimens submitted directly from private health care providers unless authorized by both the DCD and laboratory;
- ★ and charge for all diagnostic testing.

#### **CALL FOR CONSTITUTIONAL AMENDMENT ON ABORTION**

Legislation that leaves regulation of abortion up to each of the 50 states has been approved by the Senate Judiciary Committee, but its future on the Senate floor looks doubtful.

SJ Res. 3, sponsored by Orrin G. Hatch (R-UT), says simply that "a rights to an abortion is not secured by the Constitution." It would overturn the Supreme Court's *Roe v. Wade* decision and return abortion law to its pre-1973 status when each state had its own abortion statute.

The amendment is the first sentence of a 1983 Hatch proposal that never reached the Senate floor. But this year, Hatch has been promised a floor debate sometime during the next two months.

Hatch believes the "states right" issue will be warmly welcomed in the Senate, but anti-abortion groups may prove to be his strongest opponents;



they believe only an all-out ban on abortions is acceptable.

The close vote in the committee—9 to 9—also make its chances look slim on the Senate floor. Furthermore, the amendment must be approved by two-thirds of the members of the Senate and House and ratified by three-fourths of the states.

The vote pleased pro-abortion opponents to the amendment, who recognize it as a turn-around from the 10-7 committee vote on last year's Hatch amendment. Two Senators—Joseph R. Biden, Jr., (D-DE) and Alan K. Simpson (R-WY)—changed their votes.

The American Medical Association opposes the amendment, believing that it could deny a medically necessary procedure. If the legislation is adopted, it could pave the way for a "national policy" that gives the fetus the legal status of a person, AMA said in a recent statement to Senator Hatch. It is improper to have a medical procedure singled out for banning or restriction, the Association said.

#### **COMMON CODING/BILLING PROPOSED FOR MEDICAID**

A recently-proposed Medicaid regulation would require state Medicaid Management Information Systems (MMIS) to use common coding and billing systems, including a coding system based on the AMA's Physicians' Current Procedural Terminology—fourth edition (CPT-4) and a common claim form designed by an AMA-sponsored group.

MMIS is the computer model most state Medicaid agencies use for claims processing. Forty states have an operational MMIS. The federal government will pay 75% of the cost of operating an approved system.

Earlier this year, HHS signed an agreement with the AMA to permit Medicare and Medicaid to use CPT-4. Medicare carriers are already converting to a somewhat modified version of the CPT-4 called the HCFA Common Procedure Coding System (HCPCS). Under regulations published in the April 19 Federal Register, an approved state MMIS would be required to use the HCPCS as well.

The AMA also sponsored a work group which designed a new common claims form for physicians and other noninstitutional providers. A modified version of the form will be required for Medicare and for an approved MMIS.

The regulations also mandate the use of three

other billing and coding systems: the International Classification of Diseases 9th revision, Clinical Modification, (ICD-9-CM) for diagnostic coding; common claim form 1450 for hospital billing; and the provider electronic billing file and record formats now used by Medicare.

#### **CONGRESS FEARS MEDICARE 'BANKRUPTCY'**

Predictions of the impending bankruptcy of the Medicare hospital trust fund escalated this month as budget experts for both the Administration and Congress projected the fund will be bankrupt before the end of the decade—perhaps as early as 1987.

The news prompted calls for various task forces and commissions to try to do for Medicare what the Social Security Commission did for the cash programs, whose problems are now said to have been less "alarming" than those of Medicare. Reps. Claude Pepper (D-FL) and Henry Waxman (D-CA) called for a Commission which presumably would supplement the work of a Social Security Advisory Council scheduled to make recommendations for Medicare in June.

Meanwhile Senate Democrats and others are suggesting that Congressional committees form task forces to look at the Medicare problem.

Congressional Budget Office analysts, who say the hospital fund could be \$300 billion in debt by 1995, have analyzed a number of options for Congress' consideration. They emphasize that no one of these alone will make much of a dent in the approaching deficit. The options include increasing beneficiaries' copayments, increasing payroll or income taxes, and reducing payments to providers.

Meanwhile, the Social Security Advisory Council voted April 25 on the first recommendation it will make to Congress. That is to maintain the current assignment system for Part B, except for those physicians who submit an agreement to accept assignment on all cases for a year. Physicians who agreed to accept all cases on assignment would be paid 90% of the allowable fee rather than 80%, would have paperwork reduced, and could have claims processing terminals installed in their offices at Medicare's expense. Their names would be printed in directories supplied to Medicare patients.

The Council also is looking at, but has not acted on, a recommendation that would eliminate current copayments under both the hospital and

supplemental medical insurance parts of Medicare. The loss of revenues would be made up for with an increase in taxes on alcohol and tobacco and through a new premium for hospital services covered by Medicare. CBO also suggested the use of a hospital premium—which it said would spread cost-sharing among all Medicare beneficiaries rather than concentrating it on those who are hospitalized.

On another front, the President's Private Sector Survey on Cost Control, a group of corporate executives directed to look for ways government agencies can reduce costs, has recommended that the Health Care Financing Administration consider moving Medicare payment to physicians from a fee-for-service type of arrangement to prospectively negotiated fees.

HCFA already had been directed in the recently-approved Social Security amendments to study this possibility and HCFA Administrator Carolyn Davis is appointing a group of physicians to look at this and other changes that have been proposed in Medicare reimbursement of physicians. The AMA representative on the task force will be Palma Formica, M.D., a New Brunswick, N. J., internist who is an alternate delegate to the AMA House of Delegates.

Meanwhile, the Robert Wood Johnson Foundation has awarded a \$24,869 grant to Northwestern University's Center for Health Services and Policy Research to look at experiments using changes in physician reimbursement to slow health cost inflation. The project will be headed by former Blue Cross and Blue Shield Association President Walter McNerney. A series of meetings will be held with physicians and insurers to look for communities ready for reimbursement demonstrations.

#### **INDO-AMERICAN OPHTHALMOLOGY SOCIETY**

Dr. F. Hampton Roy of Little Rock and Dr. James E. McDonald, II, of Fayetteville have recently formed the Indo-American Ophthalmology Society.

Membership in the organization is open to Ophthalmologists of Indian origin from throughout the world and to American Ophthalmologists.

Its objects are: exchange of literature; exchange and development of ophthalmic equipment in the United States and India; exchange of post-graduate training program visits; organizing workshops, seminars, and basic science courses; spon-

soring research projects; encouraging the set-up and development of ophthalmic institutions; participation in philanthropic activities, i.e., eye camps in the rural areas and examination and education of the public.

The Society has set up boards of directors in the United States and one in India. Application has been made for 501(c)3 public foundation status.

The Society currently has three goals. One is to establish an audio library in Amritsar and Madras so that audio cassette can be available to the Ophthalmologists in India. The second is furnishing copies of the American Academy of Ophthalmology tapes to India to establish an audiovisual library in Madras. The third goal is to try to create a home study course in India that will be on a similar line as the American Academy of Ophthalmology Home Study Course. The Indo-American Ophthalmology Society is trying to adhere also to the guidelines of projects leading to self-sufficiency in India and maintaining the equal dignity of Ophthalmologists.

Membership is \$100. Further information may be obtained by writing to the office at 200 East 25th Street, Little Rock, Arkansas 72206.

#### **DR. TEXTER EDITS PUBLICATION**

Dr. E. Clinton Texter, Jr., of Little Rock has edited a new publication on the subject of aging and its effect on the gastrointestinal tract, *THE AGING GUT*. The volume presents opinions of seventeen medical specialists on current clinical developments regarding the effect of aging on the gastrointestinal tract.

As the percentage of older people in our population continues to increase significantly, clinicians must deal more and more frequently with the gastrointestinal problems of the elderly. *THE AGING GUT* offers a wealth of vital information that should be at the fingertips of every practicing clinician.

Among the topics discussed in the new book are the role of nutrition in modifying the progression of the aging process; major diseases affecting the elderly—including inflammatory bowel disease and colorectal cancer; and gut-brain peptides, an exciting area on the forefront of research.

#### **IMMUNOHEMATOLOGY REFERENCE LABORATORY AT UNIVERSITY**

The University of Arkansas for Medical Sciences Blood Bank has been named as an Immuno-



hematology Reference Laboratory by the American Association of Blood Banks. This designation makes the University's Immunohematology Reference Laboratory one of only forty-four such facilities in the country and the only one in the state of Arkansas.

Information on consultations in difficult blood typings, antibody identification, and patient compatibility/crossmatching problems may be obtained by contacting Dr. Robert A. Strauss, director of the reference laboratory, or Ms. Bobby B. Morgan, technical supervisor, at 501-661-5867.



# keeping up

## Category 1 Continuing Medical Education Programs Available in Arkansas

### GYNECOLOGY TUMOR REVIEW

Presented by Marion Church, M.D., *August 15*, 6:30 p.m., Dining Room, Memorial Hospital, North Little Rock. One hour Category I credit. No registration fee.

### NEUROLOGICAL EMERGENCIES

Presented by Michael H. Luzecky, M.D., Cox Medical Center, Springfield, Missouri, *August 16*, 7:00 p.m., Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### CHEMOTHERAPY OPTIONS IN THE MANAGEMENT OF CANCER OF THE LUNG AND LARGE BOWEL

Presented by Frank J. Panettiere, M.D., *August 16*, 7:30 p.m., Bella Vista Country Club, Bella Vista. One hour Category I credit. Sponsored by AHEC-NW.

### PRACTICAL RHEUMATOLOGY REVIEW

Presented by Peter Singleton, M.D., F.A.C.P., Chief of Rheumatology and Clinical Immunology, Letterman Army Medical Center, San Francisco, California, *September 20*, 7:00 p.m., Education

Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### TOPICS IN GLAUCOMA

Presented by William C. Layden, M.D., Professor and Chairman, Ophthalmology Department, University of Southern Florida, Tampa, *September 23*, 8:30 a.m., Red Apple Inn, Heber Springs. Sponsored by the Arkansas Academy of Ophthalmology. Six hours Category I credit. Registration fee \$50.

### ATLS CONFERENCE

Presented by Patrick Osam, M.D., and J. Ryland Mundie, M.D., *September 24-25* (no time indicated), UAMS, Ed II Building. Sponsored by UAMS. 16 hours Category I credit. Registration fee \$375.

### BIOLOGY OF AGING: IMMUNOLOGIC ASPECTS

Presented by David A. Lipschitz, M.D., *September 29*, 7:45 a.m. to 12:30 p.m., UAMS, Shorey Auditorium (Ed I). Four hours Category I credit. No registration fee.

### RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

#### EL DORADO — AHEC - South Arkansas

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

**FAYETTEVILLE — AHEC - NW**

*Medicine Teaching Conference*, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

**FAYETTEVILLE — VA MEDICAL CENTER**

*Pathology Conference*, third Thursday, 3:00 p.m., Conference Room.

*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.

*Mortality Conference*, second Thursday, 3:00 p.m., Conference Room.

*Peer Exchange*, August: "Pulmonary", Roger Bone, M.D.; September: "Rheumatology", Eleanor Lipsmeyer, M.D.

**FORT SMITH — AHEC**

*Tumor Conference*, each Tuesday, 12:00 noon, Sparks Regional Medical Center, Fourth Floor Conference Room.

*Neurology Conference*, second Tuesday, 12:15 p.m., Sparks Regional Medical Center Library.

*Dermatology Conference*, first Thursday, 12:15 p.m., Sparks Regional Medical Center Library.

*Thoracic and Cardiovascular Conference*, third Thursday, 12:15 p.m., Sparks Regional Medical Center.

**JONESBORO — AHEC - Northeast**

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.

*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

*OB/GYN/PED Conference*, last Tuesday, 5:30 p.m., St. Bernard's Dietary Conference Room.

*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Continuing Medical Lecture Series*, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.

*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

**LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL**

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Burn Conference Room.

*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Physicians' Conference Room.

*Primary Care Seminar*, each Wednesday, 8:15 a.m., Physician's Conference Room.

*Infectious Disease Conference*, second Wednesday, 12:00 noon, Physicians' Conference Room.

*Problem Case Conference*, each Thursday, 12:00 noon, Physicians' Conference Room.

**LITTLE ROCK — BAPTIST MEDICAL CENTER**

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.

*Cardiopulmonary Resuscitation Course*, third Tuesday, 7:00 p.m. to 1:00 a.m., Shuffield Auditorium. Six hours Category 1 credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

*Emergency Medicine Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.

*Case of the Month*, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

*General Internal Medicine Conference*, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

*Renal Conference*, fifth or last Wednesday each month, 12:00 noon to 1:00 p.m., Conference Room #1. (When there are four Wednesdays in the month, conference will be on fourth Wednesday and there will only be one Case of the Month Conference.)

*Morbidity and Mortality Conference*, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1. CANCELLED IN AUGUST.

*Surgery Conference*, second, third, fourth and fifth Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1. CANCELLED IN AUGUST.

*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.

*Cardiology Conference*, fourth Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.

**LITTLE ROCK — ST. VINCENT INFIRMARY**

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing. CANCELLED IN AUGUST.

*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

*Gynecology Conference*, second Tuesday, 5:30 p.m. to 6:30 p.m., Radiology Classroom S-1025. CANCELLED IN AUGUST.

*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory. CANCELLED IN AUGUST.

*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing. CANCELLED IN AUGUST.

*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

*Hematology-Oncology Conference*, Second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.

*Cardiology Conference*, second and fourth Thursday, 12:00 noon to 1:00 p.m., Room E-155, Education Wing. CANCELLED FOR AUGUST.

**LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES**

*Psychiatry Grand Rounds*, each Monday, 12:00 noon to 1:00 p.m., Child Study Center Auditorium.

*Medical Service Teaching Conference*, each Monday, 3:30 p.m. to 4:30 p.m., VA Building 58, Room 301.

*Fracture Conference*, each Tuesday, 7:00 a.m. to 8:00 a.m., Education II Building, Room G1-135.

*Bibliography Conference*, each Tuesday, 8:00 a.m. to 9:30 a.m., Education II Building, Room G1-135.



*Orthopaedic Grand Rounds*, each Tuesday, 10:00 a.m. to 11:00 a.m., Education II Building, Room G1-135.  
*Basic Sciences Conference*, each Tuesday, 11:00 a.m. to 12:00 noon, Education II Building, Room G1-135.  
*Internal Medicine Grand Rounds*, each Thursday, 8:00 a.m. to 9:00 a.m., Auditorium, Shorey Building, UAMS.  
*Surgery Grand Rounds*, each Saturday, 9:00 a.m. to 10:00 a.m., Education II Building, Room G1-131 A&B.

**TEXARKANA — AHEC Southwest**

*AHEC Tumor Conference*, first Wednesday, 7:00 a.m., St. Michael Hospital.  
*AHEC Regional Nephrology Conference*, fourth Wednesday, 7:00 a.m., St. Michael Hospital.  
*AHEC Chest Conference*, third Thursday, 12:30 p.m., St. Michael Hospital.



## PERSONAL AND NEWS ITEMS

**DR. BOOP ELECTED**

Dr. Warren Boop of Little Rock is president-elect of the Southern Neurosurgical Society. The group is the largest regional organization of Neurosurgeons in the country with approximately 400 members. Dr. Robert Watson of Little Rock is a past president of the organization.

**DR. ROY HONORED**

Dr. F. Hampton Roy of Little Rock was selected Arkansas Man of 1982 by the *Arkansas Democrat*. He was honored for his activities in ophthalmology, international humanitarianism, and historic preservation.

**DR. BIONDO RECEIVES AWARD**

Dr. Raymond Biondo of North Little Rock has received the Silver Antelope Award from the South Central Region of the Boy Scouts of America. The award is the highest presented to a volunteer in a five-state region. Dr. Biondo is Chairman of the National Health Careers Exploring Committee of the Boy Scouts of America.

**DR. McDONALD**

Dr. H. P. McDonald of Fort Smith was presented the "Layperson of the Year" award by the Western Arkansas Chapter of Phi Delta Kappa.

**DR. LOWERY SPEAKS**

Dr. Douglas Lowery of Russellville was guest speaker at a meeting of the Russellville Culture Club. Dr. Lowery spoke on "Stress."

**DR. READ ELECTED**

Dr. Raymond C. Read of Little Rock is the newly elected president of the Southwestern Surgical Congress. Dr. Read was installed during the annual meeting held in Phoenix.

**DR. JUSTUS**

Dr. Michael Justus of Malvern discussed "Stress" at a meeting of the Malvern Business and Professional Women's Club.

**DRS. MITCHELL AND RILEY ON PROGRAM**

Drs. George K. Mitchell and William H. Riley of Little Rock participated in the program for the annual meeting of the Arkansas Public Health Association.

**DR. LEWIS SPEAKS**

Dr. James Lewis of Searcy addressed Searcy Rotarians on the development of a pre-natal unit at Central Arkansas General Hospital for use in newborn emergency care.

**SEMINAR ON CANCER**

Dr. Francis M. Patton of Helena acted as moderator for a panel program on breast cancer presented by the Helena Hospital and the Cancer Society.

Other participants were Dr. Lance Whaley of Helena; Dr. Maurice Elovitz, Helena; Dr. Bernard Kordan, Helena; Dr. Robert Miller, Helena; and Dr. W. Ducote Haynes of Little Rock.

**DR. STERN SPEAKS**

Dr. Howard Stern of Pine Bluff presented a program "Open Your Eyes and See" to the New Horizon group in Pine Bluff.

**DRS. SMITH AND SWINGLE HONORED**

Marked Tree citizens honored Dr. V. B. Smith and Dr. C. G. Swingle at an appreciation banquet. The banquet was a feature of the Appreciation Day festivities planned for the local physicians.

**DR. GILLEAN**

Dr. John Gillean of Ashdown was instructor

for a course on "Cardiac Arrhythmia Interpretation" given by Little River Memorial Hospital. The course was a part of the Continuing Education Program of the Hospital.

#### **CANCER SMYPOSIUM**

Dr. John Henry Moore, El Dorado, acted as program director for the Second Annual Cancer Symposium recently sponsored by the Union County Unit of the Arkansas Division of the American Cancer Society.

Dr. George Warren of Smackover, president of the Union County Unit, gave the president's address. Drs. Donna Zahniser and Richard C. Pillsbury, both of El Dorado, also participated in the program.

#### **DR. BERENSON LOCATES**

Dr. Les Berenson has joined Drs. Tom and Tina Jefferson and Dr. John Smith at Ozark Specialties Clinic in Ozark. Dr. Berenson will practice Internal Medicine and Family Medicine.

#### **DR. RODGERS ELECTED**

Dr. Porter Rodgers, Jr., of Searcy was elected 1983-84 president of Santa Gertrudis Breeders International at the association's recent annual meeting in Kingsville, Texas.

#### **DR. CLARKE CONDUCTS SEMINAR**

Dr. James Clarke of Mountain Home conducted a seminar for nurses at the Central Ozarks Medical Center in Yellville. The seminar was on post-anesthesia recovery.

#### **DR. KIRBY HONORED**

North Arkansas College selected the family of Dr. Henry Kirby of Harrison for presentation of an award as "Boone County Pioneer Family of the Year." Dr. Kirby was honored as the present-day representative of a pioneer family of practicing physicians in Boone County. Dr. Leonida Kirby began practice in Boone County in 1871.

#### **DR. TURNER SPEAKS**

Dr. William Turner of Fort Smith presented "Cancer Care: Modern Medicine" during a workshop at Sparks Regional Medical Center.

#### **DR. ROBINSON HONORED**

Dr. G. Allen Robinson of Harrison was honored by the Board of Trustees of the North Arkansas Community College. Dr. Robinson was given an award in appreciation of his support to the College since its inception.

#### **DRS. PRITCHARD AND MILLAR HONORED**

Drs. Jack Pritchard and Paul Millar of Stuttgart were given awards by the Stuttgart Memorial

Hospital medical staff for the twenty-five years of service to the community.

#### **DR. DOW SPEAKS**

Dr. R. W. Dow of Fayetteville spoke to the Alzheimer's Disease and Related Disorders Support Group. He discussed diagnosis, progression and behavior management of victims of the disease.

#### **DR. YOUNG LOCATES**

Dr. Walter Russ Young, a Family Physician, has located in Waldron.

#### **BREAST EXAMINATION CLINIC**

Prescott physicians who served as volunteer physicians for a recent Self-Breast Examination Clinic were Drs. Richard Portis, Michael Young, Carroll E. Corbell and James Russell.

#### **DR. SCHUELLER LOCATES**

Dr. Steven Schueller, formerly of Dubuque, Iowa, has moved to Crossett. He is a General Surgeon.

#### **DR. STEWART ATTENDS CONFERENCE**

Dr. Jerry Stewart of Fort Smith attended the 1983 Conference of Component Society Officers of the American Society of Internal Medicine recently held in Washington, D.C. Dr. Stewart is president of the Arkansas Society of Internal Medicine.



#### **ANSWER—Electrocardiogram of the Month**

**DISCUSSION:** On the samples shown, the patient has two PR intervals, one of 0.17 seconds at a heart rate below 58/minute, and the other of 0.48 seconds at a heart rate of 67/minute. As alluded to above, it was noted that very small changes in heart rate would yield a very significant difference in her PR interval. Indeed, careful measurements revealed that atrial cycle lengths between 970 and 1,210 m sec. were followed by a PR interval of 0.17 sec. while those between 870 and 960 m sec. were followed by a PR interval of 0.48 sec. Thus, with a 10 m sec. shortening in atrial cycle length, the PR interval abruptly prolonged. This strangely suggests the presence of a dual A-V nodal pathway, a fast conduction pathway with a long refractory period and a slower pathway of conduction, but with a shorter refractory period. In this particular patient, the refractory period of the fast pathway is 960 m sec., the point at which sudden prolongation of the PR interval took place. Thus, one can speculate, on the presence of a dual A-V nodal pathway in this patient and in any other patient when it is noted that there is a large change in the PR interval relating to a small change in the heart rate. The section editor wishes to thank Dr. Ding-Kwo Wu, who recently concluded a year of study at UAMS, for his assistance with this month's feature.





## NEW MEMBERS

### **DR. JAMES A. ADRIAN**

Dr. Adrian has joined the Benton County Medical Society.

He was born in Little Rock. In 1959 he received a Bachelor of Arts degree from the University of Arkansas at Fayetteville. He was graduated from the University of Arkansas College of Medicine in 1963.

Dr. Adrian served his internship at St. Francis Hospital in Wichita, Kansas. His residency training was with St. Francis Hospital and the Kansas University Medical Center in Kansas City. He is board certified in Anesthesiology.

From 1966 to 1968, Dr. Adrian was Chief of Anesthesia at the United States Naval Hospital in Key West, Florida. He moved to Tulsa in 1968. While in Tulsa, he was on the staff of Hillcrest Medical Center, served as vice president of the Tulsa Anesthesiologists, Inc., and as an Assistant Clinical Professor of Anesthesia for the University of Oklahoma College of Medicine.

Dr. Adrian joined the staff of Rogers Memorial Hospital—St. Mary's in 1982.

Dr. Adrian specializes in Anesthesiology. His office is located at 604 North 13th in Rogers.

### **DR. NITA B. OGLESBY**

Dr. Oglesby, a new member of the Cleburne County Medical Society, was born in Conway.

She attended the University of Central Arkansas and the University of Arkansas College of Medicine, receiving her M.D. degree in 1979. She completed a Family Practice residency at the University.

After practicing Emergency Medicine at Baptist Medical Center in Little Rock for a year, Dr. Oglesby moved to Heber Springs.

Dr. Oglesby specializes in Family Practice. Her office is located at 421 South Seventh Street in Heber Springs.

### **DR. JOHN R. HOVIOUS, III**

Dr. Hovious is a new member of the Mississippi

County Medical Society. He was born in Nashville, Tennessee.

He is a 1975 graduate of David Lipscomb College in Nashville and a 1979 graduate of the University of Tennessee for Health Sciences in Memphis. His residency was with LeBoneur Children's Medical Center in Memphis. He is a Junior Fellow of the American Academy of Pediatrics.

Dr. Hovious specializes in Pediatrics. His office is located at 515 North 6th in Blytheville.

\* \* \* \*

The Pulaski County Medical Society has four new members:

### **DR. JOE L. HARGROVE**

Dr. Hargrove was born in Grady. He received a Bachelor of Science degree from AM&N College in Pine Bluff, a Master of Education degree from Tuskegee Institute, Alabama, and did graduate study at Cornell University in Ithaca, New York. He is a 1976 graduate of Case Western Reserve University School of Medicine in Cleveland, Ohio.

Dr. Hargrove received his Internal Medicine training at Cleveland Metropolitan General Hospital, Ohio, and the University of Arkansas College of Medicine. He also received training in Cardiology at the University. He was board certified in Internal Medicine.

Dr. Hargrove specializes in Cardiology and Internal Medicine. His office is located at 5326 West Markham in Little Rock.

### **DR. PAULETTE S. JOHNSON**

Dr. Johnson, a native of Lincoln, Nebraska, attended the University of Arkansas at Fayetteville. She is a 1973 graduate of the University of Arkansas College of Medicine.

Dr. Johnson trained in Pediatrics at the University of Kansas Medical Center and the University of Arkansas College of Medicine. She is board certified in Pediatrics. Dr. Johnson has practiced at Little Rock Air Force Base.

Dr. Johnson specializes in Pediatrics at 1100 West Main in Jacksonville.

### **DR. MICHAEL T. KING**

Dr. King, a native of Alexandria, Louisiana, was graduated from the El Dorado High School. He is a 1974 graduate of the University of Arkansas at Fayetteville and a 1978 graduate of the University of Arkansas College of Medicine.

After an internship with Baylor College of Medicine Affiliated Hospitals, Dr. King returned to Little Rock for a residency in Radiology at the University and a fellowship in Diagnostic Imaging. He is certified by the American Board of Radiology.

## NEW MEMBERS

Dr. King specializes in Radiology. His office is located in Suite 1100 of the Medical Towers Building in Little Rock.

### DR. MICHAEL SUNG

Dr. Sung is a native of China. He is a graduate of the National Taiwan University, Taipei, Taiwan. He is a 1974 graduate of the College of Medicine, National Taiwan University in Taipei. He trained in Surgery and Emergency Medicine at the Central Clinic in Taipei. He trained in Preventive/Occupational Medicine with the University of Cincinnati Medical Center in Ohio from 1980 to 1982.

Dr. Sung specializes in Family and Occupational Medicine. His office is located at 6917 Geyer Springs Road in Little Rock.

\* \* \* \*

### DR. MARY J. ATKINS

Dr. Atkins, a new member of the Saline County Medical Society, was born in Valdosta, Georgia.

She attended High Point College, North Carolina, and received her Bachelor of Arts from Emory University in Atlanta, Georgia. Dr. Atkins is a 1966 graduate of Emory University School of Medicine.

After an internship and one year of residency in Medicine at Illinois Masonic Hospital in Chicago, Dr. Atkins entered a Pediatric residency at Mayo Clinic in Rochester, Minnesota.

Dr. Atkins practiced in Georgia from 1970 to 1976. She practiced with the Conway Human Development Center from 1976 to 1982. She located in Benton in April 1982.

She is board certified in Pediatrics and is a Fellow of the American Academy of Pediatrics.

Dr. Atkins specializes in Pediatrics. Her office is located at 825 North Main in Benton.

### RESIDENT MEMBERS

The Jefferson County Medical Society has three new resident members:

### DR. L. T. ALEXANDER

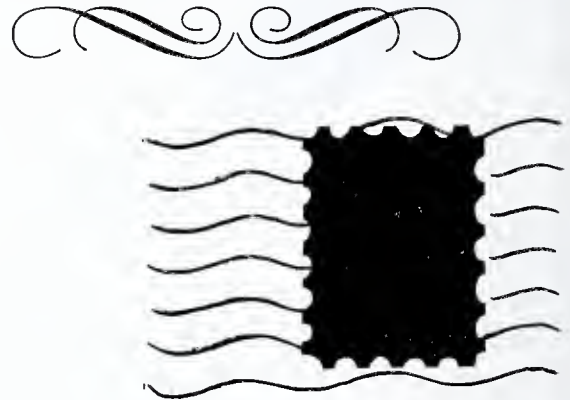
Dr. Alexander is a graduate of the University of Arkansas at Pine Bluff and the McHarry Medical College in Nashville, Tennessee. He is in the Family Practice program at the Area Health Education Center in Pine Bluff.

### DR. DAVID F. MULLINS

Dr. Mullins is a Family Practice resident at AHEC in Pine Bluff. He attended the University of Arkansas in Fayetteville and is a 1982 graduate of the University of Arkansas College of Medicine.

### DR. JANET L. TITUS

Dr. Titus is also a Family Practice resident at AHEC in Pine Bluff. She is a graduate of the University of Iowa and the University of Iowa College of Medicine.



## LETTERS TO THE EDITOR

June 3, 1983

Editor, Journal of the Arkansas Medical Society  
Alfred Kahn, M.D.

1300 West 6th Street  
Little Rock, AR 72201

To the Editor:

Arkansas Medical Society Members and all who knew Dr. H. Elvin Shuffield feel a great loss at the untimely death of this fine gentleman and physician. Dr. Shuffield was respected by physicians and lay people. My thirteen year association with Dr. Shuffield will be something that I remember the rest of my life. He was always available in his kind and considerate way to help me deliver service to my patients and was always ready to teach. Over a period of thirteen years, I referred many patients to Dr. Shuffield and I recall not one patient ever being dissatisfied with his service.

The example of this kind and compassionate physician displayed throughout his medical career should always serve as a challenge to us who continue to practice medicine. Anyone with a knowledge of the workings of the Medical Society knew that Dr. Shuffield dedicated many hours to the betterment of our lot and to the improved delivery of medical care in Arkansas. I will cherish the association I had with this fine man and the memory of him will always serve as an inspiration to me.

Charles H. Rodgers, M.D.  
Little Rock





## OBITUARY

### DR. H. ELVIN SHUFFIELD

Dr. Shuffield died on May 26, 1983. He was born in Nashville, Arkansas, on April 22, 1917. He was the son of the late Dr. Joe Shuffield, who had served for many years as chairman of the Legislative Committee of the Arkansas Medical Society.

Dr. Shuffield was a graduate of Little Rock Junior College and the University of Arkansas School of Medicine. He served with the United States Army for one year after his 1944 graduation from Medical School.

Dr. Shuffield had practiced Orthopaedic Surgery in Little Rock since 1947. He was a member of the Arkansas Orthopaedic Society and the International College of Surgeons. He was a past president of the Pulaski County Medical Society and a former chief of staff at the Baptist Medical Center. He had also served on the Board of Directors of the Baptist Health Foundation.

Dr. Shuffield was on the Board of Directors of the American Physicians Insurance Exchange.

He was one of the Society representatives on the Arkansas State Medical Board. He had served on the Board since 1972 and was elected to the chairmanship in 1982.

Dr. Shuffield served as chairman of the Society's Committee on Medical Legislation for almost twenty-five years. He gave unselfishly of his time during sessions of the legislature over the years, working to ensure that the best interests of the citizens of the State were served in legislation enacted. The Society purchased equipment for the medical consultation room at the Legislature in his honor and the Legislature named the room in his honor.

Dr. Shuffield had served as secretary of the Arkansas Medical Society since 1958.

In 1981, both the University of Arkansas School of Medicine and the Arkansas Hospital Association honored him with their "Distinguished Service Award."

Dr. Shuffield retired from the active practice of surgery in 1981 and became a consultant for the Medicaid Department of Arkansas Social Services.

He is survived by his wife, Ada, two sons and two daughters.

## RESOLUTIONS



### DR. H. ELVIN SHUFFIELD

WHEREAS, the members of the Pulaski County Medical Society note with sincere and deep sorrow the death of one of its most esteemed members, H. Elvin Shuffield, M.D., and

WHEREAS, he has been a valuable member of the Society for thirty-six years, during which time, with unselfish devotion, he served organized medicine in positions of responsibility including the Presidency in 1964; and

WHEREAS, his long years of service as legislative chairman have been and will continue to be for years to come, of inestimable benefit to all physicians in the State of Arkansas;

WHEREAS, Dr. Shuffield had been a faithful member of the Society's Executive Committee for more than twenty years, helping to shape the direction of the organization in every important decision during that time.

#### BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted as a memorial to Dr. Shuffield and that it be made a part of the Society's permanent archives; and

THAT, a copy be forwarded to Dr. Shuffield's family as an expression of our sincere sympathy; and

THAT, a copy be sent to the Journal of the Arkansas Medical Society for publication.

Adopted: June 7, 1983

/s/ Kelsy J. Caplinger, M.D., President  
Pulaski County Medical Society

### DR. RAYMOND V. McCRAY

WHEREAS, the members of the Hot Spring County Medical Society are grieved by the recent death of our friend and colleague, Raymond V. McCray, M.D., and

WHEREAS, Dr. McCray was a beloved member of his community and both friend and physician to his patients, and

WHEREAS, Dr. McCray was active in medical, church, community, and civic affairs for many years, contributing to the betterment of all.

#### BE IT THEREFORE RESOLVED:

THAT, this resolution be made a part of the permanent records of this Society; and

THAT, a copy of this resolution be forwarded

to Dr. McCray's family as a token of our deep sympathy; and

THAT, a copy be forwarded to the Journal of the Arkansas Medical Society for publication.

BY ORDER OF THE  
HOT SPRING COUNTY  
MEDICAL SOCIETY,

/s/ N. B. Kersh, M.D., President  
Michael Justus, M.D., Vice President  
Bruce White, M.D., Secretary



# THINGS TO COME

## July 28-30

36th Annual Scientific Assembly, Arkansas Academy of Family Physicians. "Keeping America Healthy." Statehouse Convention Center and Excelsior Hotel, Little Rock. 14 Prescribed Hours, American Academy of Family Physicians. Program is as follows:

### Thursday, July 28

10:30 a.m. Board of Directors Meeting  
11:00 a.m. Registration

### Afternoon Session: "Practice Management Seminar" Les Anderson, M.D., Moderator

1:00 p.m. "Managing the Business Side" — Richard Endress, Ph.D., Program Director, Department of Practice Management, American Medical Association  
4:00 p.m. "Advances in the Management of Diabetes Mellitus" — John Eaddy, M.D., Associate Professor, Department of Family Medicine, University of Tennessee College of Medicine  
6:30 p.m. Cocktail Party

### Friday, July 29 Preventive Health Measures

6:00 a.m. 5K Run

### Morning Session: "Nutrition"

Charles H. Rodgers, M.D., Moderator

8:00 a.m. "Infant and Child Nutrition"—Robert Fiser, M.D., Professor, Depart-

ment of Pediatrics, University of Arkansas College of Medicine

9:00 a.m. "Nutrient Density: The Key to Good Nutrition and Weight Control"—Richard Lewis, Ph.D., Professor, University of Arkansas, Little Rock  
10:30 a.m. "Clinical Nutrition" — Margaret Flynn, Ph.D., Health Science Center, Columbia, Ohio  
11:30 a.m. Panel Discussion by Lewis, Flynn, Fiser, Bradke  
12:00 noon Business Luncheon  
Election of Officers

### Afternoon Session: Robert Etherington, M.D., Moderator

1:15 p.m. "Altering the Pathophysiology of Established Atherosclerotic Disease"—Don Lee Bradke, M.D., Assistant Professor, Department of Nutrition, Tulane University, New Orleans; Medical Director, Pritikin Hospital Plan, Universal Health Services, Inc.  
2:00 p.m. "Exercise and Cardiovascular Health"—James Atkins, M.D., Department of Internal Medicine, Cardiopulmonary Division, University of Texas Health Science Center at Dallas  
2:45 p.m. Panel Discussion — Bradke, Atkins and Lewis  
3:30 p.m. "Modern Management of Angina"—James Atkins, M.D.  
4:15 p.m. "Overview of Cancer, Prevention, Detection, Treatments and the Future." Joseph T. Painter, M.D., M.D. Anderson Hospital and Tumor Institute, Texas Medical Center, Houston  
6:30 p.m. Cocktail Party  
7:30 p.m. Banquet and Dance (\$25 per person —pre-registration)

### Saturday, July 30

7:00 a.m. Razorback Breakfast  
Guest Speaker—Jessie Branch, Assistant Football Coach, University of Arkansas at Fayetteville

### Morning Session: Lee Parker, M.D., Moderator

8:15 a.m. "Problems and Solutions: Should Mild Hypertension be Treated?"—



Edward D. Frolich, M.D., Director,  
Hypertensive Disease, Alton Och-  
sner Clinic, New Orleans

9:15 a.m. "Management of Asthma"—Dick D.  
Briggs, M.D., Director of Pulmon-  
ary Medicine, University of Ala-  
bama in Birmingham, College of  
Medicine

10:15 a.m. "Office Manager of the Arthritides  
from the Viewpoint of an Ortho-  
paedic Surgeon" — Alvin Ingram,  
M.D., Campbell Clinic, Memphis

12:00 noon Installation of Officers Luncheon  
hosted by Glaxo Pharmaceuticals.  
Guest Speaker: Gerald Gehringer,  
M.D., President of the American  
Academy of Family Physicians

Registration fee \$75 for members, \$85 for non-  
members, \$5 for residents; there is no registration  
fee for students or spouses.

For further information or to register for meet-  
ing, contact Alta Good, Executive Secretary, Ar-  
kansas Academy of Family Physicians, Post Office  
Box 5721, Little Rock 72215; or phone 227-4633.

#### October 30 - November 4

*90th Convention—The Association of Military  
Surgeons of the United States.* Theme: "Federal  
Health Challenges: Sharing in Progress—A Na-  
tional Commitment." Convention Center, San  
Antonio, Texas. For further information contact:  
Col. R. M. (Mike) Luckey, Chief of Public Af-  
fairs, HQ, U.S. Army Health Services Command,  
Fort Sam Houston, Texas 78234 (telephone 512-  
221-6213 or FTS 746-6213) or CDR T. G. Mc-  
Mahon, Asst. Executive Director, AMSUS, Post  
Office Box 104, Kensington, Maryland 20895  
(telephone 301-933-2801).

#### December 8-10

*National Conference on Advances in Cancer  
Therapy.* American Cancer Society. New York  
City, New York. 16.5 hours Category I, American  
Medical Association; 16.5 hours Category 2-D,  
American Osteopathic Association; 15 prescribed  
hours, American Academy of Family Physicians.

For further information, write: Nicholas G.  
Bottiglieri, M.D., Advances in Cancer Therapy  
Conference, American Cancer Society, 777 3rd  
Avenue, New York, New York 10017.



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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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# The True Meaning of Trismus: A Review of Tetanus

G. Don Slaton, M.D. and Robert W. Bradsher, M.D.\*

## INTRODUCTION

Tetanus is an acute, often fatal but preventable disease caused by an exotoxin produced in a wound by *Clostridium tetani*. Worldwide, the incidence has been estimated at 300,000 to 500,000 cases per year, with a mortality rate of about 45 percent.<sup>1-2</sup> In the United States the incidence has steadily declined for decades.<sup>3</sup> In the past ten years, 200 cases were reported annually but the mortality rate of 40 percent remains approximately the same as for underdeveloped areas. In 1980, 95 cases were reported in the United States; only two cases were reported from Arkansas.<sup>3</sup> Attack rates of tetanus appear to be the highest in three age groups: neonates, 30-39 years old, and persons over age 50. The highest mortality rate, approximately 70 percent, occurs in the two age extremes.<sup>4</sup> There is no racial predilection, but the male-to-female ratio is 2.5:1, even among neonates. The highest incidence of disease is among non-whites in the rural south and occurs almost exclusively in nonimmunized or only partially immunized individuals.<sup>2</sup>

Tetanus is a treatable disease. Because it is infrequently seen in this country, the diagnosis and treatment are often delayed. These factors may contribute to the higher mortality rates. We present an elderly patient who was cured of tetanus to discuss the methods of treatment in this disease, with particular emphasis on newer aspects.

## CASE REPORT

A 75-year-old black male with no previous immunizations of any type injured his right thumb on barbed wire. He was found on a roadside three days later in a stuporous state and was taken to an emergency room. Although he was able to talk, he complained of stiffness in his jaws since the previous evening. He also complained of dysphagia and dyspnea. He was noted to have marked trismus and a swollen, infected right thumb. Fol-

lowing treatment for the presumptive diagnosis of tetanus with one million units of aqueous penicillin, 3000 units of human tetanus immune globulin, and 0.5 cc tetanus toxoid, he was prophylactically intubated and transferred to UAMS. During the four-hour transfer to UAMS, the patient had a marked increase in his muscle spasms.

Upon admission, the physical exam revealed an elderly black male who was intubated, with marked trismus, and intermittent generalized muscle spasms. He had a blood pressure of 120/70, with a regular pulse of 72, and temperature of 99.3°F rectally. His neck was extended and there was a draining, foul-smelling wound on the volar aspect of his right thumb. He was alert and responsive to verbal and auditory stimuli.

The laboratory data revealed a white count of 16,000, hematocrit 38.4, normal electrolytes, CXR, and ECG. Blood gases on room air showed a PaO<sub>2</sub> of 64, PaCO<sub>2</sub> of 30, pH of 7.38, bicarbonate of 17. A radiograph of the right thumb did not reveal subcutaneous gas.

After surgical debridement of his right thumb, the patient was placed in the MICU and continued on ventilatory support. He was given another 1000 units of human tetanus immune globulin and also begun on Nafcillin, one gram every six hours, and aqueous penicillin, three million units every six hours.

Valium 10 mg every four hours plus pavulon one mg every hour IV push was required before adequate control of his muscle spasms was obtained. He was also begun on enteral hyperalimentation, cimetidine, antacids and subcutaneous heparin.

The first three weeks of his hospitalization was complicated by copious respiratory secretions with atelectasis and severe autonomic dysfunction manifested as labile blood pressures, tachybradyarrhythmias and bowel motility dysfunction. In spite of vigorous chest physical therapy, postural drainage and 20 sighs per hour with a 1200 cc sigh volume, he still required three therapeutic bronchoscopies to correct atelectasis. With the

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addition of 5 cm of PEEP the incidence of atelectasis markedly decreased.

The patient experienced variations within minutes in both his systolic blood pressure from 60 to 200 and pulse rate from 40 to 120. The hypotensive episodes responded well to IV fluids and Trendelenburg position; the hypertensive episodes and tachyarrhythmias responded to propranolol.

The patient's neurological and cardiovascular status gradually stabilized as the autonomic dysfunction abated. He was extubated one month after his injury and was transferred to the wards two days later. He continued to require vigorous pulmonary toilet as well as physical therapy and nutritional support. His improvement continued and he was transferred to a rehabilitation hospital two months after admission for further rehabilitation. At the time of his transfer, he was ambulatory with a walker and eating a regular diet. His mental status was normal. The only further significant history obtained from the patient after his recovery was that he had not seen a doctor in 20 years and had never received vaccinations.

### DISCUSSION

The clinical disease, tetanus, a result of a toxin produced by the micro-organism *Clostridium tetani*, which is an anaerobic, gram positive bacillus that exists in both vegetative and sporulated form. This bacteria is found in the superficial layers of soil and as a saprophyte in the intestinal tract of man and certain animals. Spores develop in an environment which then may survive for prolonged periods. These spores have been found in soil, in both household and hospital dust, and rarely, from human feces. Under normal conditions, no disease will occur if spores are introduced into a wound. However, under anaerobic conditions produced by either trauma, introduction of a foreign body, or necrosis with local suppuration, these spores may transform into the vegetative form that produces toxin. Once converted, the vegetative form may produce two toxins: tetanolysin which produces hemolysis only *in vitro* or tetanospasmin, a neurotoxin that produces the signs and symptoms of the clinical disease. With the exception of botulinum toxin, this soluble exotoxin is the most powerful poison known.<sup>1</sup>

Infections caused by the tetanus bacillus remain strictly localized, but the tetanospasmin produced

is transported to the nervous system by one of two routes: either intraaxonal or blood-borne. Tetanospasmin may act on a number of sites in the nervous system. Inhibition of the release of acetylcholine from nerve terminals at the motor end plates in skeletal muscles is one effect of the toxin while the effect on the spinal cord leads to dysfunction of antagonistic muscles. The combination of these two features creates one of the primary manifestations of tetanus, that is, reflex irritability. Seizures occur in some cases and are perhaps due to fixation of toxin directly in the brain by cerebral gangliosides.<sup>5</sup> Finally, the sympathetic nervous system may become hyperactive and dysfunctional as the disease progresses.

The disease is disturbing in the fact that neither a history of trauma nor a detectable anaerobic wound is found in 20 percent of patients; most cases follow injury to the hands or feet.<sup>3</sup> A wide variety of portals of entry has been described, including thermal injury, omphalitis in neonates, septic abortions and breaks in the skin ranging from very minor lesions such as pierced ear lobes for cosmetic effect to postoperative sites or ischemic ulcers. Increasingly important entry sites for the bacteria are injection sites of narcotic addicts, especially those who give themselves subcutaneous rather than intravenous injections. Most cases have onset of symptoms within three weeks of inoculation but the range extends to several months. An incubation period shorter than three days is distinctly unusual.

The three clinical types of tetanus that have been described are localized, cephalic and generalized. The three hallmark features of trismus, muscle rigidity and reflex spasms, are seen in generalized tetanus which is the most common form of the disease. It is not uncommon for dentists to see these patients first since up to 75 percent of these patients have only trismus initially. Other complaints include the progression of neck rigidity, stiffness, dysphagia and reflex spasms. The muscle rigidity often results in the unusual facial expression called *risus sardonicus*. As the disease progresses, the abdominal and lumbar muscles are involved followed by vise-like constrictions of the chest muscles. Intense, persistent spasms of the back musculature can result in opisthotonos. The seizure that is typical of tetanus is characterized by a sudden burst of tonic contractions of muscle groups causing opisthotonos, flexion and adduction of the arms, clenching



of the fists on the thorax and extension of the lower extremities.<sup>5</sup> Reflex spasms are often easily provoked by stimuli to the patient such as noise or manipulation. Sustained spasms may leave the patient hypoxic and exhausted; laryngeal spasm can lead to asphyxia.

Local tetanus is rare and is characterized by persistent, unyielding rigidity of the group of muscles in close proximity to the site of the injury. Symptoms may persist for several weeks or even for a number of months, finally disappearing without residual signs. This form of the disease is a milder disease, with a mortality rate of 1 percent<sup>5</sup> but may precede generalized tetanus.

Cephalic tetanus is an unusual form of the disease that has a shorter incubation period of only one or two days and characteristically follows injuries of the head or otitis media. The prognosis is considered to be extremely poor with this form of tetanus. An outstanding feature of cephalic tetanus is dysfunction of the cranial nerves, singly or in any combination. Generalized tetanus follows the development of cephalic disease in some, but not all, cases.

The diagnosis of tetanus remains a clinical one, with a history of injury to an unimmunized person followed by the signs and symptoms described above. Cultures are positive in less than 50 percent of patients and are not reliable in making the diagnosis since *C. tetani* may be found in the stool of normal persons. The white blood cell count may be normal or increased. Examination of the CSF is normal. The diagnosis often results after exclusion of trismus due to localized conditions, phenothiazine toxicity, meningitis, tetany due to hypocalcemia or alkalosis, "stiffman syndrome," strychnine poisoning, subluxation of the mandible, hysteria, and acute anxiety attacks with hyperventilation. In those patients with tetanus the increased muscle tone in the masseters, abdominal and paraspinal muscles persists between spasms.<sup>6</sup>

Tetanus should be treated in an intensive care setting where the expertise of various subspecialists are readily available. The mainstay of treatment is outlined in Table 1. Passive antibody therapy will not neutralize neurotoxin already fixed in the CNS, but it will prevent further fixation of toxin and it appears that it does reduce mortality.<sup>7</sup> Although the optimum dose has not been determined, human tetanus immune globulin (TIG), 3000-6000 units is recommended to be given intramuscularly early after diagnosis.

**TABLE 1.**  
**TREATMENT MODALITIES FOR TETANUS**

Passive antibody therapy (TIG)
Debridement of wound
Antibiotic
Airway management
Neuromuscular control
Sedation
Spasm
Seizures
Immunization
Quiet environment

Equine antitoxin appears to be equally effective as human TIG,<sup>8</sup> but clearly the preference is with the human product. Debridement of the wound is important in order to remove toxin-producing organisms and alter the anaerobic environment. Debridement should perhaps be delayed until several hours after the patient receives the antitoxin because free tetanospasmin may be mobilized into the bloodstream at the time of debridement.<sup>1</sup> Antibiotics have a less clear role but are usually administered to destroy any organisms remaining after debridement. Penicillin is the drug of choice because it is highly effective against the tetanus bacillus and its limited spectrum is less likely to predispose patients to superinfection. The dosage is 1.2 million units of penicillin G intravenously every six hours for ten days, or 1.2 million units of procaine penicillin once daily for ten days. Tetracycline, chloramphenicol and erythromycin are also effective against *C. tetani*. Our patient received staphylococcal coverage with the semisynthetic penicillin in addition to penicillin.

Because of the high incidence of respiratory complications in tetanus, particularly laryngeal spasm, the importance of early airway management is critical. Intubation of the trachea should be carried out if maintenance of the airway is in any doubt. The intubation of our patient prior to transfer is one of the major reasons he walked out of our hospital.

Control of the neuromuscular manifestations of tetanus is also important. Diaxepam (Valium) has been considered to be the drug of choice in treating the muscular rigidity. Dosages vary from two to 20 mg every one to eight hours, titrated to produce the desired effects of reduced muscle rigidity and mild sedation. Oxygen consumption has been shown to be three to five times above

normal in patients with tetanus and treatment with diazepam returns oxygen consumption to near normal.<sup>2</sup> Amnesia is a secondary but useful feature of the drug. In mild cases, diazepam may be the only therapy needed. However, it does not prevent reflex spasms; adjunctive therapy with neuromuscular blocking agents is required for this manifestation. Chlorpromazine (Thorazine) in doses of four to 12 mg in the infant, and 50 to 150 mg IM in adults every four to eight hours has been used in concert with diazepam to minimize rigidity and decrease the frequency of spasms while sparing the sensorium and respirations. As described below, autonomic instability is often present; therefore, blood pressure must be closely monitored because of the hypotensive effect of phenothiazines in some patients.

The barbiturates, secobarbital (Seconal) and pentobarbital (Nembutal), are frequently used to treat the seizures that may occur in tetanus. The initial dose is three to five mg per 0.5 mg IM for children, and 100 to 150 mg IM for adults every one to four hours, and should be titrated to the point of producing some sedation and preventing convulsions but maintaining a semi-arousable state for the patient.

Severe cases of tetanus with prolonged clonic reflex spasms leading to hypoxia should receive neuromuscular blocking agents and mechanical ventilation. Patients treated in this way should be adequately sedated to avoid normal mentation while paralyzed. A combination of diazepam and narcotics produce sedation, amnesia, and pain relief. D-tubocurarine has been the mainstay of neuromuscular blocking agents used to treat severe cases of tetanus, but has been shown to cause hypotension by histamine release and ganglionic blocking. Metocurine (Metubine) lacks this hypotensive effect while producing paralysis.<sup>1</sup> This agent then might be a better choice than D-tubocurarine in preventing the hypoxia that accompanies seizures in these patients. Pancuronium (Pavulon) was utilized in our patient as an effective neuromuscular blocking agent.

General supportive measures (Table 2) are also critical in the care of the patient with tetanus in addition to the specific methods described above. Attention must be directed to nutrition, either parenterally or via tube feedings, since a three to four week period without eating should be anticipated. Atelectasis after tracheal intubation should be minimized with the use of sighs from the me-

**TABLE 2.**  
**COMPLICATIONS TO BE AVOIDED**  
**BY GENERAL SUPPORT MEASURES**

Malnutrition  
Atelectasis, Pneumonia  
Skeletal contractures  
Decubitus ulcers  
Pulmonary emboli  
Gastric stress ulcers

chanical ventilator. Despite these efforts in our patient, therapeutic bronchoscopy was required. Avoidance of contractures from long-term immobility is attempted by physiotherapy during convalescence. Frequent turning of the patient minimizes the occurrence of decubitus ulcers. A patient with tetanus, like any patient with this degree of immobility, is at increased risk for pulmonary emboli; low doses of subcutaneous heparin (5000 units every 12 hours) might be useful to prevent deep vein thrombosis. Antacids should be given in severe cases in an attempt to avoid stress ulcers of the gastric mucosa. As much as it is possible, the patient should be in a quiet, semidark environment for the necessary nursing care. A patient should be manipulated as little as possible to avoid initiating reflex spasms.

Complications remain major contributors to the morbidity and mortality of tetanus. Respiratory complications are frequent. A restrictive ventilatory defect results from rigidity of chest wall muscles which leads to reduced pulmonary defenses. This increases the incidence of atelectasis and bacterial pneumonia. Nosocomial pneumonia is a major cause of death in these patients and is found pathologically in 50 to 70 percent of cases that come to autopsy.<sup>2</sup> In addition, it has been noted that patients with tetanus have a decreased ventilatory response to CO<sub>2</sub> which returns to normal after recovery.<sup>1</sup>

Cardiac complications may be either the result of hypoxemia or a direct myocarditis from the toxin.<sup>2</sup> Others have postulated toxin-induced brainstem failure with subsequent cardiovascular dysfunction from vagal nerve disruption.<sup>9</sup> Patients are also prone to arrhythmias and as many as 30 percent manifest ST-T wave changes in the ECG which appear to be caused either directly by lesions in the CNS or indirectly via increased sympathetic activity.<sup>10</sup>

An often overlooked but major contribution to cardiovascular complications is sympathetic ner-



vous system dysfunction. These abnormalities usually develop during the second or third week and may be considered to occur in three phases. Because of the importance in treating these complications to reduce mortality, discussion in some detail is presented. Initially, the sympathetic nervous system becomes increasingly overactive and may manifest itself as a "sympathetic crisis." This phase was first described in 1968 and it is the most serious complication of tetanus once the airway has been secured. An isolated, unexplained tachycardia may be an early indication of the onset of this phase, but the predominant features are a progressive increase in the mean systolic blood pressure but with wide swings of blood pressure readings along with high cardiac output, tachyarrhythmias and an increase in the systemic vascular resistance. An example of the autonomic dysfunction in our patient is the marked lability of blood pressure as shown in Table 3. Myocardial irritability is indicated by frequent premature ventricular contractions. Profuse sweating may occur in the absence of fever, and hyperpyrexia may be seen in the absence of infection.

Prompt recognition and therapy of this phase of sympathetic nervous system overactivity are important in reducing mortality in this disease. The treatment utilized to modulate sympathetic overactivity has two main aims and requires aggressive monitoring including direct blood pressure measurement and pulmonary artery catheterization. The first aim is to block alpha adrenergic nerve endings to reduce the systemic vascular resistance and thereby control the hypertensive crises. Phentolamine, pentolinium and guanethidine-type drugs may be used for this

purpose. The second aim of therapy is to reduce the sympathetic drive to the heart by partial beta blockade with propranolol which may be given either IV or by NG tube. It should be recalled that parenteral doses should start at 0.5 mg and be titrated according to heart rate. Life-threatening episodes of bradycardia with subsequent cardiac arrest have been reported in these patients on propranolol during tracheal suction. Hypoxia may contribute to this complication and might be eliminated or minimized by preoxygenation and careful suction techniques.<sup>11</sup> Paraldehyde in doses up to 12 cc every six hours by NG or IM has also been proposed to prevent the complications of sympathetic overactivity in the same way that it has been used for delirium tremens.<sup>12</sup> The differential of this sympathetic overactivity includes pulmonary emboli, pneumonia, pneumothorax, septicemia, other concurrent illness such as acute GI bleed or visceral perforations. These complications must obviously be excluded before ascribing the signs to autonomic overactivity.

The second phase of autonomic dysfunction is characterized by hypotension. Sympathetic activity appears to be minimal except when the patient is stimulated. The cardiac index during this hypotensive period is only slightly less than normal and urine output is usually well maintained. The hypotension can be managed by using physiologic stimuli, such as elevation of the legs which increases blood return or tracheal suctioning or painful stimulation which releases endogenous catecholamines. If necessary, exogenous catecholamines such as dopamine may be used if fluid replacement alone is not successful.

In the third phase there is a resurgence of sympathetic activity although not to the excessive levels seen in the early phase. This activity gradually moderates and normal autonomic function reappears during the recovery period.

Orthopedic complications include dislocation of the temporo-mandibular and shoulder joints. Fractures of mid-thoracic vertebrae appear to be due to severe spasms, and are particularly common among children and adolescents. They usually do not result in neurological sequelae other than pain at the site of the fracture.

Retention of urine results when perineal muscles are affected with spasm. GI complications include stress ulcers, paralytic ileus and severe constipation. High fever usually indicates a secondary infection. Pneumonia is the most com-

**TABLE 3.**  
**SYSTOLIC BLOOD PRESSURES OVER A**  
**FOUR-HOUR PERIOD IN A PATIENT**  
**WITH TETANUS**

<i>Time*</i>	<i>Systolic Pressure**</i>		
0	130	120	220
15	144	135	150
30	120	150	220
45	125	165	170
60	170	180	110
75	100	195	80
90	80	210	90
105	180	235	110
		250	88

\*Minutes.

\*\*No therapeutic intervention was given during this time.

mon infection but may be difficult to diagnose because of the frequency of atelectasis. Other frequent sites of infection include the original wound, decubitus ulcers and the urinary tract. Urine evaluation by urinalysis and culture if indicated should be routinely done twice weekly.

There are several controversial treatments available. The use of steroids, both intrathecally and systemically, has been advocated but their use is generally not accepted in this country.<sup>1</sup> Hyperbaric oxygen is impractical in most areas and has not been proven to be effective. Recently use of cholinesterase-restoring agents such as pralidoxime has been recommended.<sup>13</sup> A recent report of the efficacy of human TIG given intrathecally is intriguing. The group receiving standard intramuscular TIG had a significantly higher incidence of more severe manifestations and death than a similar group that had TIG given into the lumbar CSF.<sup>14</sup> These data need confirmation but may offer a real advance in tetanus.

Several factors are useful to assist in determining the prognosis of the disease. A higher mortality rate has been seen in the very young and very old, in patients with a short incubation period, and in those with sympathetic overactivity. Elevations of BUN and SGOT upon admission also appear to be associated with a poor prognosis.<sup>15</sup> Several portals of entry are associated with an unfavorable outcome, especially those of narcotic addicts that are "skin poppers," i.e., drug users who give themselves subcutaneous rather than IV injections. Perhaps this is because heroin is frequently "cut" with quinine, which can drastically lower the redox potential at the site of injection and favor the growth of *C. tetani*.<sup>3</sup>

Tetanus is a completely preventable disease. Since *Clostridium tetani* is so ubiquitous in nature the only hope for prevention of tetanus lies in immunization programs. Since "herd immunity," as occurs with measles or rubella, is not applicable, each individual must have antibody for protection. A person is protected from tetanus after a course of active immunization (see Table 4). A child or adult has had adequate immunization against tetanus if he has had three doses of tetanus toxoid followed by a booster one year after the last dose.<sup>16</sup> In a child, this is accomplished by immunizing with diphtheria and tetanus toxoids and pertussis vaccine at two, four, six and eighteen months of age. Any patient who had childhood immunization does not need another booster for at least ten years, except if he has a tetanus-prone wound. An adult without childhood immunization can be immunized adequately by giving three tetanus toxoid injections at one month intervals and a booster injection one year after the third injection. In a person previously adequately immunized, a booster of tetanus toxoid will produce safe antibody titers in 24 hours or less. Adequate immunizations of mothers will prevent neonatal tetanus as well. Because tetanospasmin is so potent, a person with tetanus may not be immunized; the toxin is not present in quantities sufficient to invoke an immune response.

Determinations of "adequate" immunization in the presence of a fresh wound is a frequent problem. If the history of immunity is negative or unknown and the wound is obviously contaminated, as in a penetrating abdominal wound, crush injury or in a grossly dirty or old laceration,

**TABLE 4.**  
**GUIDELINES FOR TETANUS IMMUNIZATION**

<i>Previous Immunization</i>	<i>Low-Risk</i>	<i>Wound*</i> <i>High-Risk</i>	<i>Neglected</i>
None or incomplete (1 or 2 doses)	Tetanus toxoid**	Tetanus toxoid plus 500 U TIG***	Tetanus toxoid plus 500 U TIG
Full but with no booster or > 10 years since booster	Tetanus toxoid	Tetanus toxoid	Tetanus toxoid plus 500 U TIG
Full with booster within 10 years	None	Tetanus toxoid if > 5 years since booster	Tetanus toxoid plus 500 U TIG

\* Wound: High-risk are those with anaerobic conditions or more likely to have been exposed to tetanus spores. Neglected are those with anaerobic conditions that have not received medical attention for >24 hours.

\*\* Tetanus toxoid should be given as Td for adults to include diphtheria toxoid. In 6-year-old or less, DPT should be utilized.

\*\*\* TIG: Human tetanus immune globulin.



human TIG should be given at a dose of at least 500 units in patients ten years or older, 125 units in patients five to 10, and 75 units in patients less than five. In addition, active immunization should be started at the dose of 0.5 cc IM and additional injections of tetanus toxoid repeated until the series is complete. The TIG and toxoid should be given with different syringes at different sites but may be given at the same time. Similar treatment is appropriate if the patient is known to have had two or fewer tetanus toxoid immunizations in the face of a contaminated wound.

Patients with incomplete but partial immunizations who have recent and clean wounds should receive standard tetanus toxoid immunization, with completion of the series at the appropriate intervals.

While inadequate immunization may have disastrous consequences, overimmunization may be undesirable as well. Indiscriminate administration of tetanus toxoid has been shown to produce antibody levels 40 to 2,500 times the minimal protective level. Such excessively high antibody titers may be responsible for an increased incidence of such adverse reactions to the booster as urticaria, angioneurotic edema and the Arthus phenomenon.<sup>16</sup>

In summary, we have recently had the opportunity to successfully treat a patient with severe tetanus. His case allows discussion of the epidemiology, pathophysiology, clinical manifestations and treatment of this serious illness. It is tragic that anyone develops tetanus since it is completely preventable with only minimal medical intervention. However, continued interest in this disease that is rare in Arkansas must be maintained by medical personnel to ensure adequate immunity by the population.

# REFERENCES

1. Alfery, D. D., and Rauscher, L. A.: Tetanus: a review. *Critical Care Med.* 7(4):176-181, 1979.
2. Beatty, H. N.: Tetanus. In: *Principles of Internal Medicine*. T. R. Harrison, ed. McGraw-Hill Book Co., New York, pp. 685-88, 1980.
3. Annual Summary 1980. Reported Morbidity and Mortality in the United States. Centers for Disease Control, U. S. Dept. Health and Human Services, Vol. 29, Sept., 1981.
4. Armitage, P. L., and Clifford, R.: Prognosis in tetanus: use of data from therapeutic trials. *J. Infect. Dis.* 138(1):1-8, 1978.
5. Weinstein, L.: Tetanus. *New Engl. J. Med.* 289(24):1293-96, 1973.
6. The diagnosis of tetanus. *Lancet* 1(\*177):1066, 1980.
7. Blake, P. A., Feldman, R. A., et al.: Serologic therapy of tetanus in the United States, 1965-1971. *JAMA* 235(1):42-44, 1976.
8. McCracken, J. R., Dowell, D. L., and Marshall, F. H.: Double-blind trial of equine antitoxin and human immune globulin in tetanus neonatorum. *Lancet* 1(7710):1146-49, 1971.
9. Tsuada, K., Jean-Francois, J., and Richter, R. W.: Cardiac standstill in tetanus: review of 7 consecutive cases. *Internat. Surg.* 58(9), 1973.
10. Kerr, J. H., Travis, K. W., et al.: Autonomic complications in a case of severe tetanus. *Am. J. Med.* 57(2):303-10, 1974.
11. Edmondson, R. S., and Flowers, M. W.: Intensive care in tetanus, management, complications, and mortality in 100 cases. *Br. Med. J.* 1(6171):1401-01, 1979.
12. Cole, L., and Youngman, H. R.: Sympathetic nervous system overactivity in tetanus. *Br. Med. J.* 3(5668):474, 1969.
13. Leonardi, G., Nair, K. G., Dastur, F. D., et al.: Evaluation of cholinesterase-restoring agents in the treatment of tetanus in man. *J. Infect. Dis.* 128:652-657, 1973.
14. Gupta, P. S., Kapoor, R. K., Goyal, S., et al.: Intrathecal human TIG in early tetanus. *Lancet* 2:439-440, 1980.
15. Bademosi, O.: The prognostic features of biochemical investigations in tetanus. *Am. J. Med. Sci.* 278(2):167-72, 1979.
16. Rothstein, R. J., and Baker, F. J., II: Tetanus. Prevention and treatment. *JAMA* 240(7):675-76, 1978.



# National Institutes of Health Consensus Development Conference Statement — Coronary Artery Bypass Surgery: Scientific and Clinical Aspects

December 3-5, 1980

A Consensus Development Conference was held at the National Institutes of Health on December 3, 4, and 5, 1980. The purpose of the conference was to consider the status of coronary artery bypass surgery in relation to five specific questions:

1. What is overall management of patients with coronary artery disease — that is, in what context should coronary artery surgery be considered?
  2. What constitutes a reasonable diagnostic workup before recommending medical or surgical therapy?
  3. What is known about long-term survival with coronary artery bypass surgery in specific patient groups?
  4. What is known about long-term quality of life following coronary artery bypass surgery?
  5. What is the range of success rates for the procedure in various settings, and what factors may be important in influencing this outcome?
- 1. What is overall management of patients with coronary artery disease — that is, in what context should coronary artery surgery be considered?**

Coronary heart disease may be recognized by the physician as the clinical syndromes of angina pectoris, acute myocardial infarction, sudden cardiac arrest or ischemic cardiomyopathy. It may also be recognized in an asymptomatic form by detection of electrocardiographic evidence of prior myocardial infarction not recognized during the acute episode or by characteristic abnormalities of the electrocardiogram during exercise testing of apparently healthy persons. Once suspected by the physician, the diagnosis may be confirmed with various levels of certainty by utilization of one or more special diagnostic tests. The tests most commonly used include the electrocardiogram recorded during and after monitored graded exercise, in some institutions radio-nuclide studies of myocardial perfusion and ventricular function at rest and in response to exercise, and coronary arteriography with left ven-

tricular angiography. In addition to confirming the diagnosis, such studies may provide information as to the pathological anatomy of the coronary arteries, the functional condition of the left ventricle and the overall response of the circulation to stress. These data may be combined with those obtained from the medical history and physical examination and with detailed knowledge of the natural history of the disease derived from many long-term follow-up studies of patients having such testing to form definable subsets of persons with widely different prognoses. Since a fundamental aspect of advanced coronary heart disease is a greatly increased probability of sudden death or myocardial infarction, such prognostic information strongly influences the decision on whether to add coronary artery bypass surgery to the overall lifelong medical management recommended. If the combined data indicate that the patient is at high risk of sudden death or infarction — for example, the patient with severe stenosis of the main trunk of the left coronary artery or severe and proximal stenosis of multiple major coronary branches — especially serious consideration is given for surgery. On the other hand, if the studies indicate that there is no critical stenosis of any major coronary branch, then clearly surgery is not indicated and medical treatment is advised.

But a very large percentage of patients fit between these extreme examples. In these patients, recommendations for medical or surgical therapy are based upon two fundamental questions. One question, often most anxiety provoking to the patient, relates to the perception of the physician and the patient as to which course provides the greatest protection from disabling myocardial infarction or death. The second question relates to which course will allow the patient to obtain a satisfactory quality of life according to his own standards. The answers to these questions remain highly judgmental. The answer to the first is heavily based upon the physician's interpretation of a large volume of sometimes contradictory data of extraordinary complexity. The answer to the second is heavily based upon the individual pa-



tient's response to medical therapy and to his or her priorities.

It is common practice for the physician and patient, when faced with this problem, to initiate comprehensive medical therapy with subsequent periodic reevaluation of the patient's response to his treatment. It is critically important to recognize that appropriate, comprehensive medical care of the patient with coronary heart disease requires an intensive effort on the part of the physician, involving consideration of almost every aspect of the patient's life. It requires careful education of the patient and spouse on the nature of the disease and its management so as to allow adequate self-care on a continuing basis and to allow the patient to participate knowledgeably in major decisions affecting his or her life. It requires optimal control of risk factors for atherosclerosis and modification of lifestyle appropriate to the constraints imposed by the illness. This may affect both work and leisure activities. It may require long-term administration of such potent medications as nitroglycerin, beta-adrenergic blocking drugs, long-acting nitrates, antiarrhythmic agents and digitalis, among others. Effective and safe utilization of these therapeutic agents requires careful titration of dosage against both subjective and objective indices. If, after such careful and intensive medical treatment, the patient believes that the quality of life is so adversely affected that other alternatives must be sought, then surgical therapy may be advised in patients suitable for this operation. It must also be recognized that in many cases dissatisfaction with the altered lifestyle imposed by the illness is the result of inadequate attention to the details of management; failure of the physician to educate the patient concerning appropriate use of the indicated medications may be a particularly important cause of this outcome.

In patients with chronic stable angina and good ventricular performance, aorto-coronary revascularization of the heart, whether with autologous vein or artery, has had a progressive decline in operative mortality to levels as low as 1 to 2 percent at major surgical centers. A corresponding decrease in perioperative myocardial infarction has been achieved. These results are assumed to relate to better management of anesthesia, more complete myocardial revascularization and improved methods for protecting the heart during the period of coronary grafting.

There seems to be no doubt that coronary bypass surgery can improve myocardial perfusion. Patency of aorto-coronary saphenous vein grafts has been in the range of 80 to 85 percent two years after operation. The procedure has been widely accepted as treatment in patients with unacceptable symptoms on medical therapy and in certain other subsets of patients with coronary artery disease.

## **2. What constitutes a reasonable diagnostic workup before recommending medical or surgical therapy?**

A reasonable diagnostic workup of a patient with angina pectoris depends upon the clinical problem at issue. Instability and severity of angina, effect of disease on the quality of life, cardiac function and, to a certain degree, age, play a role in determining the workup of each patient. The workup should be done as efficiently as possible to provide definitive information upon which clinical decisions can be made. Unnecessary and redundant procedures should be avoided.

In some patients the clinical picture indicates the need for anatomic definition of the coronary anatomy to determine operability. There is consensus that patients with stable angina whose quality of life is significantly impaired by their symptoms should undergo coronary arteriography. Further, in patients with unstable angina, coronary arteriography should be performed during the initial phase of hospitalization; if maximal medical therapy does not relieve symptoms, this procedure should be done urgently. There is consensus that coronary artery bypass graft surgery is indicated in patients with unacceptable symptoms on appropriate medical treatment or with recurrent unstable angina, but the decision to operate must also depend on results of invasive studies.

In patients with typical angina not sufficiently severe to dictate surgery for relief of symptoms, noninvasive cardiac testing may be carried out initially in the attempt to identify those at high risk for major cardiac events. However, there is lack of consensus on the value of noninvasive testing in the workup of such patients. Some physicians prefer coronary arteriography as the initial diagnostic procedure, particularly in the young patient. Others recommend exercise electrocardiography in an attempt to identify patients with significant left main or triple-vessel

disease. Such patients will often show early and/or excessive ST segment deviations, prolonged ST segment depression into the recovery period, or decrease in blood pressure during the test. In this category of patients coronary arteriography should be carried out and, if high-risk pathology is found, coronary artery bypass surgery considered. The use of radionuclide studies to identify high-risk patients with left main and/or triple-vessel coronary disease needs further evaluation.

There is lack of consensus on the approach to evaluation of patients with questionable or atypical angina. In such patients exercise electrocardiography may be helpful in the identification of those with significant coronary disease; such identification may be enhanced by radionuclide studies in conjunction with exercise testing, particularly in patients with resting electrocardiographic abnormalities which impair the interpretation of the exercise electrocardiogram. The presence of coronary artery disease may be indicated by transient myocardial perfusion defects, wall motion abnormalities or an abnormal response of the left ventricular ejection fraction to exercise. Further research is needed to determine the role of noninvasive testing in patients with, or those suspected of having, coronary-artery disease.

Survivors of an acute episode of myocardial infarction are at high risk of sudden death during the first year after the infarction. Recent studies have demonstrated one-year mortality ranging from 10 to 15 percent of all survivors. Several investigators have reported that these patients can be divided into high- and low-risk subgroups on the basis of clinical information and such noninvasive testing as exercise electrocardiography, radionuclide studies of ventricular function, and ambulatory 24-hour electrocardiographic recording. It is believed that high-risk patients should undergo coronary arteriography and left ventricular angiography followed by surgical intervention if the coronary anatomy and left ventricular function are appropriate. It should be recognized, however, that the course of these patients undergoing surgery may differ from that of patients with stable or unstable angina and apparently similar coronary anatomy and ventricular function, in that they appear to exhibit a greater tendency for major ventricular arrhythmia. It is also recognized that there is as yet in-

sufficient data to determine whether surgical intervention will reduce the mortality of this special subset of patients with coronary heart disease. Because of the relatively large number of patients included in this high-risk post-myocardial infarction subset, and the present uncertainty as to the proper course of management, an urgent need exists for further investigation of this problem.

The problem of the patient with coronary disease presenting with congestive heart failure needs special consideration. It is important to determine whether a lesion amenable to surgery is contributing significantly to the heart failure, e.g., a ventricular aneurysm, severe mitral incompetence and/or a post-myocardial infarction ventricular septal defect. Two-dimensional echocardiography or radionuclide ventriculography may be noninvasive techniques of help in the evaluation of such patients.

### **3. What is known about long-term survival with coronary artery bypass surgery in specific patient groups?**

The impact of coronary artery bypass graft surgery on survival of patients with coronary artery disease has been the focus of extensive debate since its introduction. In considering data on survival, the severity of left ventricular dysfunction has been determined to have an adverse effect on survival, and comparisons between surgical and medical therapy must take this into account as well as the anatomic location and extent of disease defined by coronary arteriography.

It is well recognized that the interpretation of the results of surgical series by comparison with historical controls is difficult. It is especially hazardous in the assessment of coronary artery surgery because of marked changes between early and recent results, both for surgically treated and for medically treated patients. Several recently published series with long-term follow-up of patients undergoing coronary artery bypass surgery have documented an impressively low operative mortality with remarkable long-term survival. At the same time, other studies have noted a marked improvement in recent years in the survival of medically treated patients. Accordingly, it seems unlikely that convincing evidence of the benefits of surgery in appropriately defined subgroups can be effectively assessed from other than adequately controlled studies.

There is consensus that coronary artery bypass surgery in patients with angina pectoris and



greater than 50 percent narrowing of the luminal diameter of the left main coronary artery results in improved survival when compared with results on medically treated patients regardless of left ventricular function or degree of angina pectoris. (Survival rates with medical and surgical therapy were 60 and 89 percent respectively at four years in the V.A. trial, and 67 percent and 89 percent at five years in the European trial. Left main coronary artery stenosis of this severity is reported in approximately 10 percent of patients undergoing coronary arteriography.\*)

There are only a few prospective randomized trials and observational studies with concurrent medically treated controls to assess the impact of surgery on survival. Furthermore, the application of such results to the overall population with symptomatic coronary artery disease, treated in a variety of centers, must be done with caution. This compounds the problem of judging the effects of coronary artery bypass surgery on survival in patients with three-vessel disease for whom conflicting data exist. (Three-vessel coronary artery disease of surgical significance is reported in 30 to 40 percent of angiographic studies.\*) The V.A. Cooperative Randomized Trial was reviewed. The initial report failed to demonstrate improved survival with surgery in patients with three-vessel disease, the majority of whom had moderate impairment of left ventricular function. However, if one accepts the analysis of the V.A. data for the 10 hospitals (which include 87 percent of the patients) in which the average operative mortality was 3.4 percent and eliminates the three outliers in which the average operative mortality was 23 percent, a significantly improved survival with surgery is observed. There is evidence from observational studies which suggests improved survival in patients with three-vessel disease and moderate impairment of global left ventricular function, i.e., left ventricular ejection fraction in the range of 25 to 50 percent.

Data were reviewed that suggested improved survival after coronary artery bypass grafting in patients with three-vessel disease and good left ventricular function defined as left ventricular ejection fraction greater than 50 percent. The European Collaborative Randomized Trial dem-

onstrates improved survival for surgically treated patients in this subset. Though the differences observed in the European trial are impressive (survival rate at 60 months was 82 percent for the medical group and 94 percent for the surgical group), there is consensus that confirmation of these findings by additional studies is needed before a firm conclusion can be reached on the question of improved survival in patients with three-vessel disease and good left ventricular function as defined. Other smaller randomized trials and observational studies have yielded conflicting results in this subset.

The two large randomized studies examined do not provide evidence for improved survival with surgery of patients with two-vessel disease regardless of the status of the left ventricle, while some observational studies have suggested improvement in survival with surgery of patients with two-vessel disease and moderate impairment of left ventricular function. There is no evidence currently available to support improved survival after surgery in patients with single-vessel disease regardless of left ventricular functional status.

We do not find data adequate to support the conclusion of improved survival with surgery in patients with severe degrees of left ventricular functional impairment, i.e., left ventricular ejection fraction less than 20 percent.

Review of the National Heart, Lung, and Blood Institute Multicenter Randomized Unstable Angina Pectoris Trial, which excluded patients with left main coronary artery disease or persistent unstable angina, has failed to show improved survival of those treated by urgent surgery compared to those treated exclusively by medical management unless surgery was dictated by chronic symptomatology. The extent to which results in this highly selected group of patients can be extrapolated to other subsets of unstable angina patients is not established.

It is important to reemphasize that surgery may still be appropriate in patient subsets where evidence of improved survival with surgery is lacking if symptoms of myocardial ischemia are sufficiently severe or if large areas of myocardium are in jeopardy. Further attempts should be encouraged at identifying other variables, currently unmeasured, which may affect survival and thus provide methods for more critical testing of therapeutic effectiveness.

\*Estimates of prevalence of lesions found on coronary angiography have a significant dependence on the criteria for angiography; thus considerable variability may exist among individual institutions.

#### 4. What is known about the long-term quality of life following coronary artery bypass surgery?

There are few objective criteria by which quality of life can be assessed following coronary artery bypass surgery. The symptom of angina pectoris is reported to be relieved in 80 to 90 percent of patients undergoing operation for chronic stable angina. Bypass surgery has reduced the subsequent number of cardiac-related events, amount of medication required and frequency of hospitalizations. The majority of postoperative patients have been able to increase their exercise capacity and their New York Heart Association functional class. This has been documented by improvements in functional exercise testing, angina threshold, left ventricular wall motion, left ventricular ejection fraction during exercise, indices of myocardial oxygen consumption during exercise and greater lactate extraction across the myocardium.

Improvements in symptoms and functional capacity associated with coronary bypass surgery theoretically should result in more individuals returning to gainful employment. The consensus is that this expectation has not been accomplished. It is recognized that physicians do not make consistent recommendations to patients regarding exercise potential and employability after successful coronary bypass surgery. Factors extraneous to the patient-physician relationship such as preoperative work status, availability of nonwork income, perception of health, age, level of education, and employer attitudes all appear to influence the postoperative employment status. Whether or not the patient returns to work after coronary bypass surgery depends on too many nonmedical factors to allow any conclusions regarding efficacy of therapy based on this parameter.

It is reported that angina will recur or progress after bypass surgery in about 5 percent of patients per year. In approximately two-thirds of these patients, symptoms are related to closure of the vein graft or progression of disease in the native circulation. This may be related to persistent elevation of blood lipids or poor control of other risk factors. The entire question of mechanisms involved in progression of atherosclerosis in the coronary circulation and in grafts is important and requires further investigation.

Similar results regarding quality of life have

been observed in patients undergoing coronary bypass surgery for unstable angina, but the reported follow-up data are of shorter duration than those cited, which are based predominantly upon patients with stable angina.

#### 5. What is the range of success rates for the procedure in various settings, and what factors may be important in influencing this outcome?

The institutional setting in which bypass graft surgery is performed may importantly influence the rate of success of the operation in various clinical subgroups. Excellence can be achieved in a variety of hospital settings provided appropriate medical and technical support is available to complement an experienced and skilled surgical team. This would include expertly performed angiography in suitably equipped laboratories, the availability of other subspecialty resources and appropriate laboratory and blood banking facilities.

Successful intraoperative management, reflected in low rates of mortality, perioperative infarction and other postoperative complications, and short hospital convalescence will depend not only upon surgical skill and judgment, but also upon the availability of competent anesthesiologists, efficient extracorporeal support, optimal myocardial preservation techniques and minimal duration of myocardial ischemia consistent with optimal revascularization.

Postoperative management requires a suitable intensive care facility, dedicated personnel and the availability of circulatory support systems.

With the experience that has been accumulated to date, the following expectations for hospital mortality and perioperative infarction are achievable:

- In patients with chronic stable angina pectoris and normal or moderately impaired left ventricular function, a hospital mortality rate of 4 percent is generally attainable, and a rate of less than 1 percent is possible. The incidence of electrocardiographically documented perioperative infarction might approximate 5 percent.
- In the syndrome of unstable angina pectoris, early results will depend upon the institution's approach to management. A somewhat higher incidence of morbidity and mortality may result from earlier operative intervention compared to lesser risks after a longer period of



stabilization and exclusion of patients with evolving infarctions. With initial stabilization and nonemergency operation, hospital mortality and perioperative infarction rates should approach those for patients with chronic stable angina pectoris. Even with early intervention, a hospital mortality of 6 percent is generally attainable, and perioperative infarction might approximate 10 percent.

- The existence of left main coronary artery involvement has been associated with high operative risks in the past. Currently, and except under emergency conditions, individuals with this lesion can be operated upon with morbidity and mortality rates only slightly higher than for those with chronic stable angina with other coronary anatomy.
- Bypass grafting in patients with severe left ventricular dysfunction has been associated with high operative morbidity and mortality. Recent improvements in perioperative management have lessened the risks. In patients with very severe myocardial dysfunction — that is, ejection fractions of less than 25 percent — a hospital mortality rate no greater than 15 to 20 percent is generally achievable.
- At this time there is insufficient information to identify the role of bypass surgery in patients with acute myocardial infarction, intractable ventricular arrhythmias or asymptomatic patients with jeopardized myocardium.

For all categories of patients, average one-year graft patency of 85 to 90 percent should be achievable. The roles of anticoagulant and antiplatelet therapy, as well as other interventions which may affect late graft patency and retard the arteriosclerotic process are not known at this time and require further study.

### Conclusion

There is consensus of the Panel that coronary artery bypass surgery represents a major advance in the treatment of patients with coronary artery disease. Evidence has been presented to support the conclusion that improvement in the quality of life, decreased myocardial ischemia, and increased survival in selected subsets of patients have been demonstrated following coronary artery bypass surgery.

This Consensus Conference on *Coronary Artery Bypass Surgery: Scientific and Clinical Aspects* was sponsored by the National Heart, Lung, and

Blood Institute in conjunction with the National Center for Health Care technology and with the assistance of the Office for Medical Applications of Research, Office of the Director, NIH. The Consensus Development Panel consisted of the following persons:

Robert L. Frye, M.D. (*Chairman*)

Chairman, Division of Cardiovascular Diseases

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Special participants in the discussions of the  
Panel included the following:

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College Park, Maryland  
David C. Levin, M.D.  
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Copies of this Consensus Statement may be obtained from the Office for Medical Applications of Research, National Institutes of Health, Building 1, Room 216, Bethesda, Maryland 20205.

It is anticipated that papers presented at this Consensus Conference will be published as a proceedings. For further information, contact Public Inquiries and Reports Branch, National Heart, Lung, and Blood Institute, Building 31, Room 4A21, Bethesda, Maryland 20205.





# ELECTROCARDIOGRAM

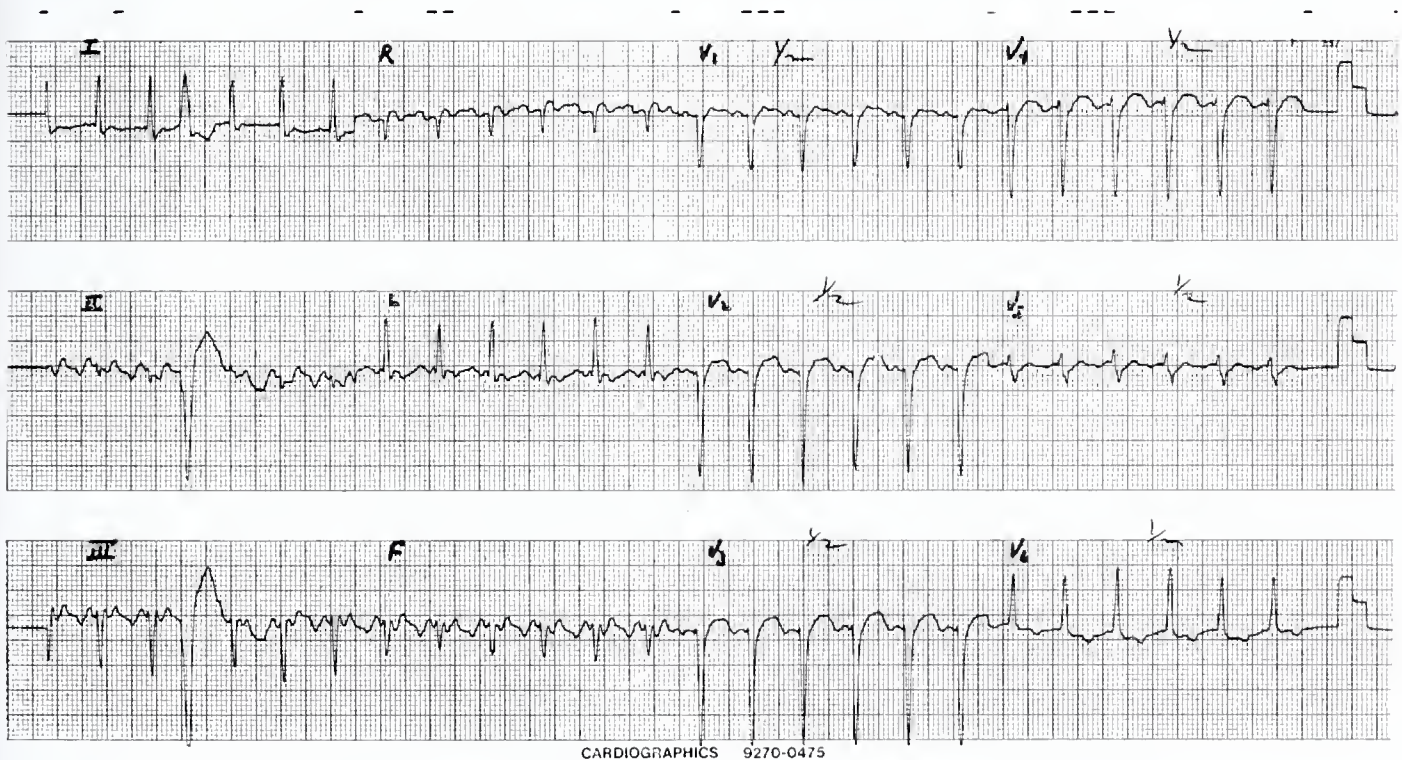


# OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 152)

**HISTORY:** L. B. is a 53-year-old alcoholic who has presented because of edema, nocturnal dyspnea, and shortness of breath on exertion. He has a blood pressure of 90/60 mmHg, a positive hepatojugular sign, rales, and an S<sub>3</sub> gallop. What do you think of his ECG?



John W. Watson, M.D.

UAMS-LRVAMC Division of Cardiology

Little Rock, Arkansas



# Office Orthopaedics

## Chemonucleolysis

R. Barry Sorrells, M.D.\*

A new word has been introduced into our medical vocabulary. Chemo (chemical), nucleo (nucleus — as in nucleus pulposus), and lysis (dissolving) are combined to create the word chemonucleolysis. This literally means “the dissolution of the nucleus pulposus with a chemical substance.”

Although chemonucleolysis (“CNL”) is by no means an office orthopedics technique, all primary treating physicians should be able to discuss the procedure with their patients and make appropriate recommendations based on an adequate understanding of that procedure. The purpose of this article is to offer a very basic discussion regarding the problem, the drug, the patient selection, the procedure, the potential complications, and the anticipated result.

### The Problem

Acute and chronic low back pain are among the most common complaints for which patients seek a physician's advice and treatment. Population studies suggest that at least 50% of the adult population is incapacitated at some time by low back pain. About 25% of the population complains of disturbing low back pain on a regular basis. It has been suggested that at least 1% of the adult population at some time will have a true herniated disc syndrome.<sup>1</sup> It is estimated that approximately 200,000 patients in the United States each year undergo laminectomy or repeated laminectomy in an attempt to correct a herniated intervertebral lumbar disc.<sup>2</sup>

### The Drug

In 1964, Dr. Lyman Smith published his first

article on the use of chymopapain and its dissolution of the nucleus pulposus in humans.<sup>3</sup> Dr. Smith had serendipitously discovered the effect of chymopapain, an enzyme derived from the papaya plant, after he had injected the material into the ears of rabbits and noticed that their ears became “floppy.” He reasoned that the chemical had apparently dissolved the cartilage in the rabbits' ears and he ultimately hypothesized that it might bring about similar changes in the intervertebral disc of man. Chymopapain changes the chemical composition of the nucleus pulposus by proteolytic action. It breaks down the sulfhydryl bonds of the mucopolysaccharides of the nucleus pulposus but has no activity on the collagen of the annulus fibrosis.<sup>4</sup>

After a raging twenty-year controversy, the Food and Drug Administration in November of 1982 approved Chymopapain as a safe and effective treatment for people suffering from symptoms of herniated nucleus pulposus in the lumbar spine.

### The Patient Selection

Chemonucleolysis is not a treatment for the patient with only low back pain. It is a specific procedure indicated only for the patient with herniation of the nucleus pulposus and nerve root impingement. Furthermore, it should be considered only for the patient who has been given an adequate trial of conservative management including complete bedrest, analgesics, and physical therapy with no improvement over a reasonable period of time. There should be a definite radiculopathy as demonstrated by some or all of the following: radicular pain or numbness into the

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leg along a specific dermatome, sensory loss involving the same dermatome, weakness of ankle dorsiflexion or plantar flexion, a limited straight leg raising test, or depression of a deep tendon reflex. An abnormal myelogram, CT scan, epidural venogram, or electrodiagnostic study should correlate with clinical findings to confirm the suspicion of herniated nucleus pulposus. The patient who is a candidate for chemonucleolysis is the patient who is also a good candidate for surgical discectomy. Chemonucleolysis is an alternative procedure to surgical discectomy and not a panacea for the patient with low back pain!

Certain patients are not candidates for chemonucleolysis. Those with major weakness in a muscle group or rapidly progressive muscle weakness remain a candidate for surgical treatment. Likewise, those patients who demonstrate splinter disturbance due to disc protrusion on the cauda equina or conus should undergo early discectomy. If extensive spondylosis or spinal stenosis exists in the lumbar region it is unlikely that chymopapain will be effective. Any patient who has an allergy to papaya or to meat tenderizer (which contains papaya extract) should be excluded from this treatment. Furthermore if a patient has had a previous chymopapain injection, he should not undergo a second injection due to the risk of an allergic response as a result of hypersensitivity produced by the first injection. Chymopapain has not been evaluated in pregnant females or young children.

### **The Procedure**

Chemonucleolysis has been performed successfully with local anesthesia but general anesthesia with endotracheal intubation is generally preferred in the U.S.A. The technique involves introducing an extra long (6"-8") hypodermic needle through an oblique approach, passing through the paraspinous musculature at a 45 degree angle to the sagittal plane, so as to avoid the spinal canal, the great vessels, and bone, to enter the center of the disc. Bi-plane fluoroscopy is essential for proper positioning of the needle. Once the needle tip is centered in the nucleus pulposus, a radiopaque dye is injected and the resulting discogram is evaluated. This is diagnostically beneficial in that a positive discogram further confirms the impression of a degenerated nucleus pulposus. It also shows where the enzyme will be distributed. After an adequate period of

time to observe the patient for a possible reaction to the radiographic dye, a test dose of chymopapain is injected. After about fifteen minutes of observing the patient for potential reaction to the enzyme, the remainder of the therapeutic dose (1.5 cc/disc) is introduced into the nucleus pulposus. The patient is monitored for a period of time in the operating room and then for at least an additional ninety minutes in the recovery room. Over 95% of the reactions will occur in the first two hours following enzyme injection.

### **The Potential Complications**

Chemonucleolysis is not without potential complication! Anaphylaxis occurs in approximately one percent of patients treated with chymopapain. Since this reaction may occur with a much greater severity than most of the anaphylactoid type reactions that are usually seen by the anesthesiologist or surgeon, it is important that all be familiar with and alert to this possible complication and knowledgeable in management should it occur. The sooner anaphylaxis is recognized and the correct treatment started, the greater the possibility for survival of the patient. Following injection of the antigen (chymopapain) a reaction may occur and may be severe or even fatal. In one study of 1,500 patients, two patients died of anaphylactic reaction. Investigation is currently being carried out toward the development of a pre-procedure allergen test. Pre-treatment with H<sub>1</sub> and H<sub>2</sub> blocker medications will probably reduce not only the severity of anaphylaxis but perhaps its incidence as well. Careful monitoring by the anesthesiologist will result in more rapid institution of treatment should anaphylaxis occur and hopefully result in a significant lowering of potential mortality.

Another complication is the occurrence of significant back muscle spasm. This has been reported in as many as 36% of the patients. This problem, with conventional treatment, is usually resolved within a few hours to several days. Other complications are possible but occur so rarely that they need not be covered here.

### **The Anticipated Result**

Relief may be immediate or may require as much as six weeks. Dramatically, many patients awaken in the recovery room completely relieved of their radicular symptoms. Others may demonstrate a gradual improvement over a six-week

period. Numerous studies on large numbers of patients have concurred that good to excellent results are obtained in 75% to 80% of properly selected patients subjected to chemonucleolysis. Should the patient fail to respond, the possibility of ultimate surgical intervention is not compromised by previous chemonucleolysis.

### Summary

Herniated nucleus pulposus of the lumbar spine is a common source of chronic and acute pain in patients seen in the physician's office. The office practitioner should be aware that chemonucleolysis offers an alternative step in the treatment of herniated discs while avoiding some of the complications, morbidity, and hospital expense concomitant with open back surgery. It is not, however, a miracle cure. The patient must be properly selected and must be an ideal candidate for the procedure. In such patients, chemo-

nucleolysis properly carried out may offer dramatic improvement and possibly a complete remission of symptoms or clinical cure of the patient.

### REFERENCES

1. Nordby, E. J., Course Chairman: Post-Graduate Course on Intradiscal Therapy. Sponsored by The American Academy of Orthopedic Surgeons and The American Association of Neurological Surgeons, 1982.
2. Javid, M. J., Nordby, E. J., Ford, L. T., et al: Safety and Efficacy of Chymopapain (Chymodiactin) in Herniated Nucleus Pulposus With Sciatica — Results of a Randomized, Double-Blind Study. *The Journal of the American Medical Association*, Vol. 249, No. 18:2489, May 13, 1983.
3. Smith, L.: Enzyme Dissolution of the Nucleus Pulposus in Humans. *Journal of the American Medical Association* 1964; 187:137-140.
4. Dunn, J. E., Johnson, C. L., and Cox, W.: Treatment of Lumbar Disks with Chymopapain. *Physical Therapy*, 56(4):399-402, April 1976.







## Arkansas Department of Health Childhood Immunization Program

Jim Farrell\*

The Immunization Program, as it is structured today, originated in 1963 when the State of Arkansas applied for and received its first immunization project grant monies under the National Vaccination Assistance Act. At that time, the thrusts of immunization programs were aimed at the elimination of paralytic polio through mass administration of newly introduced Sabin (live) oral polio vaccine.

As polio was brought under control, the Arkansas Immunization Program turned its attention toward providing children with newly developed, safe and effective measles and rubella vaccines. From 1967 to 1972, program resources and staff were channeled into conducting special mass clinics throughout the State in an effort to immunize as many children as possible against measles and rubella. As the numbers attending mass measles/rubella clinics grew smaller, the program's direction again changed.

In 1973 the State's First Lady, Mrs. Betty Bumpers, became interested in promoting immunizations after reviewing some survey statistics that showed dangerously low national and state levels of childhood immunizations. She began with the "Every Child by '74" campaign aimed at raising immunization levels in children against diphtheria, tetanus, pertussis, polio, measles, and rubella.

Following a statewide mass program in Sep-

tember 1973, emphasis was placed on continued public health education regarding the need for immunization. Efforts to enforce the school immunization law requirements were increased along with more vigorous disease surveillance and outbreak control programs. Mrs. Bumpers' "Every Child" campaigns set precedence for continuing support for immunization from the office of the Governor.

In 1977, Secretary of the Department of Health, Education, and Welfare (DHEW) Joseph Califano, largely through prompting by Mrs. Bumpers, announced the National Immunization Initiative with the goal of raising immunization levels across the board to 90% or better nationwide, by October 1979. Although living in Washington, D. C., Mrs. Bumpers actively participated in Arkansas' Immunization drive by continuing to serve as Honorary Chairman of the Statewide Immunization Task Force, established during her first 1973 campaign.

The significance of the Arkansas Immunization Program on both the state and national level is enormous. Mrs. Bumpers' "Every Child" campaigns were unique nationally and Arkansas' program was adopted as a nationwide model for the ensuing National Immunization Initiative. The "Every Child by" slogan was adopted nationwide by the 1976 Bicentennial Committee. Through Mrs. Bumpers' efforts, Arkansas has gained a national reputation as a leader in the immunization field.

The need for an immunization program will be present for as long as vaccine preventable diseases are endemic in this country. Because of Arkansas' success in meeting the basic goal of

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Jim Farrell was born on June 20, 1944 in Brooklyn, New York. He received his A.A.S. degree from the University of New York and his B.S. degree from Kansas State University. He is a Public Health Advisor, employed by the Centers for Disease Control in Atlanta, Georgia and has been assigned to the Arkansas Department of Health since January 1980. Previous work experience includes several years in South Carolina and Fairbanks, Alaska working in State Venereal Disease Control Programs and several years in Anchorage, Alaska as Director of the Childhood Immunization Program.

90% or better immunization levels set forth by the National Immunization Initiative, the Immunization Program can be considered in a maintenance phase. The success of this phase is dependent upon maintaining these high levels of immunization and upgrading them where possible.

A successful maintenance program will eliminate any future need for major immunization drives such as the "Every Child" campaigns and the National Immunization Initiative.

Today's Childhood Immunization Program focuses on several priority issues. We must implement a system that ensures that 90% or more of all children complete basic immunizations by age 2. This will require the joint commitment of public and private health care providers to recall any child delinquent in one or more immunizations. The computer-based recall system currently in use by all public health providers is now available to private physicians.

A second thrust of the Immunization Program is to significantly reduce the number of susceptibles to rubella in the adolescent and young adult age groups. This is being accomplished by providing rubella vaccine to these age groups in all public and private medical facilities. In addition, emphasis is being placed on assisting colleges and universities in developing programs and policies that will ensure that all students are protected against rubella disease prior to attending school. A recent change in Health Department policy now requires that all new employees to the Arkansas Department of Health show proof of rubella immunization or immunity or be vaccinated prior to beginning work.

A third focal point is to maintain an effective program of rapid identification and follow-up of suspected measles cases. To be successful in this area we must operate a surveillance system that will find and report public and private cases of measles within the shortest possible time. This system centers around the 24-hour Code-A-Phone reporting system that is available statewide to all public and private health care providers. Arkansas is well on the road to the eradication of indigenous measles and now more than ever it is vitally important to quickly follow-up on any and all suspected cases of measles.

The Immunization Program maintains surveillance of potential risks of vaccination to continually re-evaluate whether individual vaccination are, on balance, good for people. This state surveillance system is part of a national system monitored by the Centers for Disease Control in Atlanta, GA. Such surveillance is important, not only to provide potential vaccinees with accurate information about the consequences of vaccination, but also to stimulate improvements in the vaccination process or recommendations that will minimize or eliminate the risks.

The Immunization Program also maintains a system that provides adequate notification of the risks and benefits of immunization to 100% of public patients. This system is also available to all private health care providers and is currently being used by a few. This system centers around a set of Important Information Forms that provide the patient with current information about the disease they are being vaccinated against as well as the risks and benefits associated with the vaccine they are about to receive. Once the patient has reviewed the Important Information Forms, any questions he/she has are answered by the health care provider.

In summary, the Arkansas Immunization Program is changing with the times. Past successes have dictated these changes in direction and our intentions are to maintain the gains we have made while aggressively striving to improve specific program components.



#### ANSWER—Electrocardiogram of the Month

**DISCUSSION:** The patient has two P-waves for each QRS complex, with a P-wave rate of 300 per minute and a QRS rate of 150/minute. The P-waves are best seen in II, III, and AVF and there is a "saw-toothed" appearance to the baseline. This looks like atrial flutter. Additionally, the trace meets full criteria for left ventricular hypertrophy, as judged from axis, voltage, ST-T changes, and intrinsic deflection. The ECG then shows atrial flutter and left ventricular hypertrophy. From a clinical point of view, the patient was thought to have an alcoholic cardiomyopathy manifested by congestive heart failure. This particular patient responded to Lanaxin and diuretics.





## EDITORIAL

# Concerning Regulatory Peptides and Hormones

Alfred Kahn, Jr., M.D.

Among the more interesting articles recently published for practicing physicians is one entitled "Regulatory Peptides: Key Factors in the Control of Bodily Functions" by J. M. Polak and S. R. Bloom (*British Medical Journal*, page 1461, Volume 286, May 7, 1983). A vast amount of literature has been written about regulatory peptides in recent years and it is succinctly summarized by these authors. As they point out, there has long been a controversy about their functions. In their introduction, Polak and Bloom make the very important point that these peptides, which they prefer to call regulatory peptides, can be made and set free from both the endocrine system and from neural tissue; further, they state that these substances can perform as circulatory hormones, local regulator, and neural transmitter—or combinations of these. Accompanying the article is a very nice chart in which they outline the 13 regulatory peptides which have been definitely proved to be functional. In the course of their discussion, they not alone outline the characteristics of the hormone but also the interworking of the hormone in various organ systems.

It is of interest that they credit secretin as being the first discovered regulatory peptide (1902) and gastrin was the second (1905). The discovery of vasoactive intestinal polypeptide is credited to a physician doing pulmonary work. It is said to be found in most parts of the body and is "localized to autonomic nerves." The authors liken this regulatory peptide to the situation with liver disease where there is so-called non-A, non-B hepatitis—and, in this case, there are portions of the autonomic nervous system which they called "non-adrenergic, non-cholinergic." The action of vasoactive intestinal polypeptides is that of vasodilatation; it also relaxes smooth muscles;

it has some secretory activities. There is speculation as to whether vasoactive intestinal polypeptide is a neural transmitter in the classic sense of the word, but the authors indicate that it could be.

Substance P was said to have been discovered by Von Euler and Gaddum. It was first noted, according to Polak and Bloom, when it was found that there was a substance which caused muscle contraction that could not be blocked by Atropine.

Cholecystokinin causes a contraction of the gall bladder. It is the same factor which for a time was known as pancreozymin because it was noted to stimulate the release of pancreatic enzymes. The authors state that cholecystokinin has various molecular forms, but there are certain essential portions necessary for its specific function. Because of the variety of forms in which cholecystokinin can exist, it has been speculated that it is both a circulatory hormone and a neural transmitter.

Somatostatin was originally thought to be a substance which inhibited the release of growth hormone. The authors report that later tests of somatostatin proved that it inhibits many hormones in various parts of the body and is an extremely potent substance.

Bombesin is another regulatory peptide. It is interesting that it is said to be found in the skin of frogs—and thus it got its name. It is further said to be an important discovery because this substance releases regulatory peptides in contrast to the action of somatostatin.

In this article, Polak and Bloom also gave a discussion of opiate peptides which arise in the body, a substance called peptide with histidine isoleucine and peptide tyrosine/tyrosine and neuropeptide with tyrosine. Polak and Bloom state

that much of the work in discovering the locale of these regulatory peptides was done using radio-immuno assay and immunocytochemistry. Using these techniques, it has been found that the regulatory peptides are extremely widely distributed. They are commonplace in many tissues and the authors indicate that there is so much tissue that seems to contain regulatory peptides that, in all probability, some of these substances have not yet been discovered. Polak and Bloom have an excellent, brief account of regulatory peptides in the gastrointestinal tract; this has been widely studied. The regulatory peptides in this gastrointestinal tract are said to be found in either the mucous membrane, endocrine cells, or in nerves supplying the gastrointestinal tract. Some diseases particularly affect these gastrointestinal regulatory substances as Hirschsprung's disease and Crohn's disease.

In the central nervous system, the authors state that more than 15 regulatory peptides have been discovered. Other reviewers state that there are more than this number — but probably the number varies according to an author's definition of what is the minimum standard for a regulatory peptide. To the practicing physician, it is of interest to know that there is an abnormal distribution of these regulatory peptides in some diseases such as Alzheimer's disease, Huntington chorea, and schizophrenia.

The respiratory tract is stated to have six known regulatory peptides and it is inferred that more might exist. The function of these regulatory peptides is altered in the presence of disease. Polak and Bloom state that vasoactive intestinal polypeptide, for example, is a potent muscle relaxant and Substance P, on the other hand, contracts muscle; this may play a role in asthma.

The genitourinary tract, of course, contains regulatory peptides. The exact function of these substances in the genitourinary tract is unclear. The authors report on the regulatory peptides in other places in the body and state that they appear to come from larger precursor substances; some of these precursor chemicals are thought themselves to have biologic action.

In summarizing, the authors postulate that one cell might produce several regulatory substances and, if this is positive proved, it represents a considerable change in our previous understanding of this group of chemicals — and the manner in which they are produced.

In *The Lancet* (page 1008, Volume 1 for 1983, May 7, 1983) is an interesting article entitled "Neuropeptide Tyrosine (NPY) — A Major Cardiac Neuropeptide" by Gu, Polak, Adrian, Allen, Tatemoto, and Bloom. Gu, et al, state that this peptide has been found in large quantities near the atrioventricular node. It is a 36 amino acid peptide which is thought to act on the heart separately from acetylcholine and norepinephrine. The authors feel that neuropeptide tyrosine may have some relationship to the control of myocardial perfusion, but they did not know any specific functions for this regulatory peptide. Its dense concentration in certain areas of the heart and widespread presence throughout the heart would certainly indicate some type of cardiac function, but additional physiologic studies have to be performed. This substance may turn out to be just as important to the heart as cholinergic and adrenergic substances — but its function is still speculative.

Two articles of passing interest concerning hormones appear in the May 12, 1983, issue of *The New England Journal of Medicine*. One concerned "Abnormalities in Plasma and Cerebrospinal Fluid Arginine Vasopressin in Patients with Anorexia Nervosa." Most physicians are in agreement that anorexia nervosa is a psychiatric illness. Some investigators have reported hormonal changes which are present in the presence of anorexia nervosa. Gold, Kaye, Robertson, and Ebert studied arginine vasopressin in anorexia nervosa and found that the response to hypertonic saline was abnormal. They further state that the levels of arginine vasopressin in the plasma and cerebrospinal fluid do not revert to normal rapidly even if the individual regains weight. They report that there are really two varieties of this disorder. The first is a lack of vasopressin; the other variety was described as being "an erratic or osmotically uncontrolled release of arginine vasopressin. It was characterized by erratic fluctuations in plasma levels of the hormone that bore no apparent relation to changes in the plasma levels of sodium. This pattern is in marked contrast to that in healthy adults who invariably have a somewhat progressive rise in vasopressin levels that correlates closely with the rise in plasma sodium levels." Gold, et al, state that they are not certain as to the origin of the faulty osmoregulation. It is of interest that their



subjects had an increased urinary output and they wondered whether or not the patients had some type of polydipsia.

The other article of interest concerned "High-Altitude Pituitary-Thyroid Dysfunction on Mount Everest" by Mordes, Blume, Boyer, Zheng, and Braverman. The adaptation to high altitude has been a matter of great interest to medical scientists — there are numerous studies on people who live habitually at high altitudes. There are not nearly so many scientific observations on people who ordinarily live at sea level and go to high altitudes. The studies in this report were carried out on 17 men. It was found that there was a progressive increase in serum thyroxine and serum triiodothyronine concentrations. The au-

thors also found that the level of thyroid stimulating hormone went up in the face of an elevated thyroxine level. Serum thyroxine globulin did not increase notably and Mordes, et al, interpreted this as "tending to rule out enhanced secretion of thyroid hormone." The authors conclude that the thyroid-pituitary relationship is disturbed and it may be due to a faulty pituitary conversion of T-4 to T-3. They describe the condition found here as a hyperthyroxinemic state in euthyroid subjects.

There is a vast and accelerating amount of literature on the chemistry of the body. These studies quoted above are a sampling of some of the more interesting research which is being carried out.



## "From Other Years"\*

*Journal of the Arkansas Medical Society*

Vol. 4 No. 2 August 15, 1893 p. 69-70

### COUNTY SOCIETIES

The Arkansas Industrial University, Medical Department. — Dr. C. S. Gray, so long and favorably known throughout Arkansas, has been elected to the chair of ophthalmology and otology. This chair has been still further strengthened by the election of Dr. Frank Vinsonhaler to the position of clinical professor of these branches. Dr. S. H. Kempner has been elected professor of histology,

pathology and urinology. A few minor changes have been made which will facilitate instruction in the institution. Notwithstanding the high stand taken by this school in inaugurating the three-course standard adopted by all the good schools in the United States, the indications are that the next class will be a large one. It is a true sign of progress in medical education when students seek schools which are first class, rather than those that have only cheapness and two short, irregular terms to recommend them.

From the University of Arkansas for Medical Sciences Library, History of Medicine/Archives.



## O B I T U A R Y

### DR. ROBERT G. VALENTINE

Dr. Valentine of North Little Rock died June 21, 1983. He was born in Madison, Wisconsin, on August 10, 1925.

He was a member of the United States Navy from 1945 to 1946.

Dr. Valentine received his pre-med education at the University of Wisconsin and Hendrix College in Conway; he was granted a Bachelor of Arts

degree in Chemistry in 1951. He did graduate study in physiology at the University of Houston. In 1959, Dr. Valentine was graduated from the University of Arkansas School of Medicine. His internship was with Arkansas Baptist Hospital. He was a resident in Anesthesiology at the University Medical Center from 1960 to 1962.

Dr. Valentine was a member of the International Society for Anesthesiology, Safari Club International and Park Hill Presbyterian Church.

He began practicing in North Little Rock in 1962 and had served as chief of Anesthesiology at Memorial Hospital for more than twenty years.

Dr. Valentine is survived by his wife, Juanita; his son, Dr. Robert G. Valentine, Jr., of Little Rock; and another son.

# MEDICINE IN THE NEWS



## THE MONTH IN WASHINGTON Health Planning Proposals Considered By Congress

When he took office, Ronald Reagan vowed to kill the health planning program set up in 1974. His Administration has in fact managed to prevent the program's reauthorization.

Nevertheless, the program is still alive today and once again Congress is debating legislation to extend the life of the federal planning program. The debate comes at a time when:

- hospitals are engaging in a building boom that reportedly led to capital expenditure increases of 80% between 1979 and 1982;
- at least 10 states are implementing or considering moratoriums or limits on hospital building.

The planning program's \$64.8 million provided under a continuing resolution enacted by Congress to fund all health programs through September of 1983 has enabled 131 local health systems agencies (HSAs) and all 57 state health planning and development agencies to continue operations this year, although many have had to greatly restrict their activities. Another 20 HSAs have survived without federal funding.

Planning agencies, through the American Health Planning Association, are arguing to congressional appropriations committees that planning should be funded again in fiscal 1984 — this time at a \$102 million level.

Meanwhile, the House Commerce Committee voted 26 to 15 to continue the planning program until October 1, 1986. The measure is similar to one adopted unanimously in the House last December and House approval of the same bill or some modification of it is expected again this year. Action in the Senate is still uncertain following the collapse of a compromise between interested parties in both bodies.

Debate in the House has revolved around the proposals of Rep. Henry Waxman (D-CA), who chairs the Commerce Health Subcommittee, and

Rep. Edward Madigan (R-IL), its ranking minority member. Both would have loosened the requirements in the current planning law and, ironically, both were based on proposals approved by overwhelming majorities in the House last year, though neither was acted on in the Senate.

Last September, the House, acting on a compromise drafted by Madigan and Waxman, voted 302-to-14 to repeal the current planning program and replace it with a block grant that was funded for two years but could have continued for a third year if Congress so opted. To receive federal funding, states would have had to agree to require institutions to seek certificates-of-need (CONs) for capital expenditures of \$5 million or more and for institutional services of \$1 million or more. CON requirements would not have applied to equipment in physicians' offices.

After the Senate failed to adopt that proposal and after the Democratic gain of 25 seats in last fall's elections strengthened Waxman's hand, another compromise was put together in the lame duck Congress. That proposal, which had been agreed to by Waxman and Madigan and the major Senate players in the debate, would have extended the Health Planning Act until March 31, 1985, and set the CON thresholds at \$1 million for capital expenditures and \$500,000 for institutional health services.

Once again the House acted on the measure, passing it on a unanimous vote. Once again the Senate stalled, this time at the insistence of the then-HHS Secretary Richard Schweiker whose interference reportedly angered some influential Senate Republicans including Labor and Human Resources Committee Chairman Orrin Hatch of Utah who felt the compromise was preferable to the continuing resolution because the compromise contained higher CON levels than does the current law and because it contained a specific repeal date.

As the discussions spilled over into the new 98th Congress, there at first appeared to be sup-



port for a compromise similar to the December agreement. Talks broke down, however, when Waxman began to suggest that the health planning program should be assured for a little longer in order to coordinate it with the recently-enacted Medicare reimbursement changes.

Those changes will move hospitals to a diagnosis-related-groups (DRGs) payment scheme beginning in October of 1983 but capital costs will be passed through until October 1, 1986. After that, hospital capital costs will be included in the new DRG rates and states will be required through Medicare's Section 1122 process to review the need for these expenditures.

Waxman wanted to delay repeal from the December agreement's March 1985 date to the October 1986 date when capital costs are to fall under DRGs. But Senate Republicans reportedly would not buy that and negotiations broke down entirely.

On May 9, Waxman introduced his measure which resembled the December compromise in all respects except that it keeps planning intact until October 1986. On the same day, Madigan and Rep. James Broyhill (R-NC), co-sponsored with Rep. Richard Shelby (D-AL) a bill that is nearly identical to the September approach.

In Waxman's subcommittee, there was some good-natured debate about the relative merits of the two bills, both of which had at one time or another been supported by all the sponsors of the new bills. Discussion was minimal, however, and the subcommittee approved Waxman's proposal on an 11 to 7 vote.

One week later Waxman's proposal was endorsed by the full Commerce Committee by a 26 to 15 margin. There are indications that Madigan and Shelby may try to construct another alternative to offer when the measure goes to the House floor. That could happen before the July 4 congressional recess.

\* \* \*

### **Congress Acts Swiftly On Health Insurance For The Unemployed**

Proposals to aid 11 million Americans who lost their health insurance when they or a family member lost their jobs passed a major congressional mile post in late May as the House Commerce Committee endorsed a plan that will cost about \$2.6 billion in 1984.

Despite the objections of the Reagan Administration and the nation's governors, the Commerce Committee approved the measure by a convincing 34 to 8 vote. Crafted by Rep. Henry Waxman (D-CA) and Rep. Edward Madigan (R-IL), the plan is a compromise that would terminate after three years. It would base federal funding on the level of unemployment in the state. It would require employers to provide laid-off workers health coverage for 90 days and to permit open enrollment of workers or dependents previously covered under a laid-off spouse's plan.

States would be required to cover at least nine days of hospital care and ten physician visits and to charge the worker a premium of at least 2% of his unemployment benefits. The state could employ a variety of administrative mechanisms, including Medicaid, insurers or providers.

The bill originally would have denied federal funds to states with less than 6% unemployment. To accommodate members in states where overall unemployment is low but pockets of high unemployment exist, Waxman and Madigan modified the proposal to provide federal matching funds for programs directed to the areas with high unemployment within states with less than 6% unemployment.

The other principle change made in the measure came after a heated debate and a cliff-hanging 21 to 18 vote. It prohibits funds in the bill from being used for abortions except when the life of the mother is in danger.

The major threat to approval of the Waxman-Madigan compromise came from Rep. Thomas Tauke (R-IA), who offered a substitute that reportedly had White House input. It would have included requirements for employers similar to those in the subcommittee bill but would have provided funds to all states under a block grant approach. Matching funds would not have been required of states.

Tauke and Broyhill produced letters of support from the National Governors Association and drew a caustic reply from Madigan who pointed to the "inconsistency of the governors' railing against the size of the federal deficit" last month and now rushing to embrace aid to the unemployed "as long as it's federally-funded."

Despite the governor's support, the Tauke

measure failed by 27 to 15. Following the defeat, about half of its 15 supporters turned to the Waxman-Madigan proposal which was endorsed 34 to 8.

Waxman and Madigan say the size of the final vote is an indication that should it gain final congressional approval, President Reagan will have no choice but to sign their bill. At the same time, they concede that the bill's eventual enactment by the House is anything but certain and Senate agreement is even less likely.

Even the House's timetable for further deliberations on the issue is still in doubt as the concerned parties wait for a signal from the House leadership on how to proceed.

Still to be resolved, for instance, are the questions of whether the bill will be referred to the House Ways and Means Committee where it could become bogged down or significantly altered and whether action, as seems likely, will be put off until after a House and Senate budget conference resolves differences in the funding the two bodies have provided for health insurance for the unemployed.

The House has provided \$2.7 billion in 1984 and the Senate only \$900 million. A conference on the measure will probably not take place until after the first week in June. But if funding is significantly reduced, Waxman and Madigan will have to make major revisions since Waxman made a commitment to Madigan to stay within whatever budget is eventually settled on.

Meanwhile, Senate action appears to have stalled. At the moment, Sen. Robert Dole's (R-KS) \$1.8 billion, two-year block grant plan is seen as the major contender there. However, no further action in either body seems likely until middle or late June.

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#### **Kidney Dialysis Rules Reissued; Opponents Still Find Fault**

In February of 1982, the federal government proposed new rules for paying kidney dialysis facilities and physicians. More than a year and 4,000 comments later, the final rules have been issued in much the same form as they were originally proposed.

The rules, published in the May 11 *Federal Register*, are intended to implement an incentive

payment system that Congress first proposed in 1978 and that was to have gone into effect in July of 1979. The Department of Health and Human Services failed to fully implement the new system and Congress amended the proposal in 1981.

Controversy has surrounded the plan from the beginning. The new rules, which would take effect August 1, 1983, appear to do little to abate the criticisms made of the earlier proposal, only slightly modified in the final rules.

Under the new rules, both physicians and facilities will receive the same amount for treating patients dialyzing in the facility as for those dialyzing at home. Hospital-based dialysis facilities will be reimbursed at slightly higher levels. Payment rates will vary according to regional wage indexes. Physicians and facilities will continue to receive 80% of the allowable payment from Medicare and 20% from the patient. An exception which has permitted 100% Medicare reimbursement of the cost of home dialysis equipment has been eliminated.

Both hospital and independent centers now are reimbursed for dialysis according to a single \$138 per treatment national screen. However, based on contentions that they treat sicker patients and have higher costs than independent facilities, more than half of the about 700 hospital dialysis centers have received exceptions resulting in payments of more than \$138. Only about 6% of the independent centers received exceptions.

Under the new rules, hospital payments would average about \$131 per treatment and in the first two years payments would range from a minimum of \$122 to a maximum of \$138. After that, the range could be greater, depending on whether or not the Health Care Financing Administration decides to modify the wage index it is using to calculate payments. For independent facilities, average payment will be \$127, with a range in the first two years of \$118 to \$138.

HCFA acknowledges that the new plan will pay hospital facilities an average of \$8 less than the median of the group's cost per treatment and independents an average of \$14 more than their median cost. It claims this will even out because facilities are expected to make money on home dialysis patients, which HCFA calculates cost the



facilities only about \$97 per treatment. Hospitals have about 24% of their dialysis patients on home dialysis compared to 11% of the independent centers' patients.

Physicians now can be paid for treatment of dialysis patients in one of two ways. About 23% choose the initial method (IM) in which Medicare pays the facility an extra \$12 per treatment for physician services and the physician bills the facility. Payments under this method have averaged about \$210 per month for patients dialyzing in the facility and \$25 for those at home.

About 73% of physicians have chosen an "alternative reimbursement method" (ARM) which paid them a monthly capitated stipend that averaged \$220 for patients in the facility and \$124 for home patients.

Under the new rules, the IM payment option will be eliminated and a single new rate will be established for home and in-facility patients. It will average about \$184 a month and will range from a minimum of \$144 to a maximum of \$220.

Reimbursement rates for physicians and facilities will be updated only at HCFA's discretion. The current screens have not been updated since they were put in place in 1974.

The regulations are so little changed from the original proposed regs that most of the groups that criticized them in the first place say they are far from satisfied with the final product. Both the National Association of Patients on Hemodialysis and Transplant and the Renal Physicians Association are considering lawsuits to prevent implementation of the new rules and several congressional committees say they are still not satisfied with the regulations which resulted in three congressional hearings when they were first proposed.

Complaints include fears that the facilities will be forced to cut staff to keep costs below the payment levels, concerns that facilities will encourage home dialysis for patients who are good candidates for transplants, the belief that the data used to develop the rates is old and inadequate, and charges that the payments for hospitals are inadequate and so similar to those for independent facilities that the regulations in effect flaunt the law's mandate for a two-rate structure.

\* \* \* \*

### FTC Authority Clarified In House Bill

An amendment that clarified Federal Trade Commission (FTC) authority over professionals and state licensing boards was approved by the House Energy and Commerce Committee in May.

The proposed legislation says that the FTC cannot override state laws that regulate the training, education and licensing requirements of professionals. For the first time, however, FTC's authority over professionals' commercial and business practices has been recognized.

Where state laws properly regulate certain anticompetitive business practices, the FTC could not interfere, under the new language. But the FTC could intervene when state regulatory agencies improperly or insufficiently regulate business practices. The FTC also would be permitted to challenge state laws that relate to education, training and experience but appear to restrict business or commercial activities. A 16-page report released by the Energy and Commerce Committee says that under the proposed amendment, professionals or state licensing boards cannot:

- unjustifiably deny hospital admitting privileges;
- impose restrictive apprenticeship requirements that discourage the development of effective alternative forms of health care;
- restrict the scope of non-MD practices which have been performed successfully for years;
- restrict tasks or duties of other professional groups, which are qualified by training and education to perform;
- promulgate regulations, of any kind, outside their authority.

"This amendment will provide appropriate guidance and clarification for the FTC and courts on points of major controversy," the report says.

\* \* \* \*

### Congress Moves Toward Budget Resolution

The Senate approved a 1984 budget resolution May 19. The health portion of the resolution, adopted 50-to-49, is very similar to one proposed by the Senate Budget Committee and modified by the Senate in earlier budget debate. It would provide \$900 million in 1984 and \$1.8 billion over the next 2.5 years for health insurance for the unemployed.

Medicare cuts in the resolution total \$824 million in 1984 and \$9.5 billion over the next five years. This would be in addition to some \$10.5 billion in savings projected from the diagnosis-related groups payment plan enacted earlier this year. Medicaid would be cut by \$53 million in 1984 and by a little more than \$3 billion over five years.

Both the Medicare and Medicaid funding reductions are only about half what President Reagan had requested. In addition, in debating the Budget Committee's recommendation the Senate added \$49 million in each of the next three years for providing health care to pregnant women. Attempts by Senate Republicans to increase Medicare cuts were soundly defeated and a proposal by Democrats to add back \$400 million in Medicare funds was only narrowly turned aside.

The Senate action contrasts with a House budget resolution that limits Medicare savings to those anticipated from DRGs, provides \$2.7 billion for health insurance for the unemployed in 1984, and adds \$350 million in Medicaid funding for a child health assurance program.

A House Senate Conference to resolve the differences in the two bodies' budget plans was delayed until June.

Major differences between the plans center on the Medicaid and Medicare budgets and on the funding for the health plan for the unemployed. Debate on the health insurance for the unemployed is expected to concentrate only on funding, leaving the design of the program to the authorizing committees with jurisdiction over the issue.

The Senate Budget Committee has recommended that Medicare savings be achieved by increasing and means-testing Part B premiums and by freezing allowable fee levels for physicians who don't accept the Medicare assignment. Though the recommendations are not binding on the committees charged with enacting changes to meet the budget mandates, they may be debated by budget conferees.

\* \* \* \*

#### **Reagan Administration Persists On "Squeal Rule"**

Early this year, judges in both Washington and New York blocked the controversial "squeal rule"

which requires federally-funded family planning clinics to notify parents when their teenagers receive prescription contraceptives.

But, in May the Reagan Administration went back to the Washington, D. C., Appeals Court to urge reinstatement of the rule.

Government appeal of the second suit, filed by New York State's Attorney General, was set to be heard in New York on June 20.

In West Virginia, an Appeals Court postponed action on a third suit after the Washington and New York rulings.

In Utah, a federal judge has blocked a state "squeal rule" until a full hearing on the rule on August 5. This law, originally scheduled to take effect early in May, requires that retailers or physicians ask for identification and notify parents before dispensing either prescription or non-prescription birth control products to teenagers.

Attorneys for the Administration say that a 1981 amendment passed by Congress was designed to make parents more involved in their children's sexual decision-making. Simply encouraging teenagers to talk to their parents has not helped reduce the number of teenage pregnancies, they say.

"It is absolutely clear that the Secretary of Health and Human Services had the authority to issue the regulations challenged in this case," argued Justice Department lawyer Carolyn B. Kuhl before the Washington, D. C., judge. "The family cannot participate in an activity that it does not know is taking place. . . . It is entirely legitimate for a parent to be involved in family planning decisions of an adolescent child."

But family planning groups charge that the "squeal rule" invades a teenager's right to privacy and violates patient-physician confidentiality. Furthermore, there is little basis for the government's contention that notification would protect the health of teenagers; prescription contraceptives pose few problems to women under age 18, they say.

The American Medical Association and the American College of Obstetricians and Gynecologists, siding with the family planning groups, contend that a notification rule will scare teenagers away from family planning clinics and lead to an upsurge in adolescent pregnancies. "Teens



are five times more likely to die from pregnancy and childbirth than from the use of oral contraceptives," Dr. Luella Klein, ACOG's Vice President, said at a press conference earlier this year.

\* \* \* \*

### **Government Keeps "Baby Doe" Concept Alive**

Stung by a recent defeat in court, the Department of Health and Human Services (HHS) has set out to revise the controversial "Baby Doe" regulation. Predictions are that it will be the procedure rather than the substance of the rule that is changed.

The rule required hospitals to post notices in delivery wards and nurseries publicizing a 24-hour "hotline" to be used in cases of suspected neglect. It was rushed into effect in only 15 days.

This was a "hasty and ill-considered" response to one of the "most difficult medical and ethical problems facing our society," U. S. District Court Judge Gerhard A. Gesell ruled in April.

"We are now in the process of reviewing the regulations in light of the Judge's decision," explained an HHS spokesman. The government has not yet appealed the case. It is suspected that HHS will abandon the court room battle once the regulation is rewritten. The revision, a joint effort of the White House and the Departments of Justice and HHS, is believed to contain a section that explains the standards the government wants applied in the treatment of Down's Syndrome, spina bifida and anencephala.

Meanwhile, committees in the House and Senate approved "Baby Doe" legislative strategies designed to protect handicapped newborns. For both states and hospitals, the penalty of noncompliance is severe; loss of federal funding assistance.

House bill H.R. 1904 calls for infant care guidelines and requires that states set up a hotline system to report cases of suspected neglect. States that choose not to comply would lose all funding for child abuse programs.

The Senate bill S. 1003 would establish a government advisory committee to study the treatment of ill newborns and recommend standards of "appropriate" care. Based on the findings of this advisory committee, the Health and Human Services Secretary would propose regulations to establish "decision-making procedures" within every hospital. Hospitals that do not comply

would lose all Medicare and Medicaid funding.

A vaguely-worded amendment to the Senate bill offered by Sen. Thomas F. Eagleton (D-MO), reads:

"(The regulations) shall at a minimum require that all severely-ill newborns be provided relief from suffering including feeding, and medication for pain and sedation as appropriate."

According to Eagleton staffers, this means that feeding is required but medication is optional.

No cases of infant mistreatment have been uncovered by the government's Baby Doe activities. Of 822 calls received on the HHS Baby Doe hotline, 21 involved complaints of infant care and seven prompted federal investigation. However, according to Patricia Mackey of the HHS Office of Civil Rights, the government has not recommended treatment, feeding or relocation of any infant referred on the Baby Doe hotline.

The AMA told Congress that it supports reauthorization of the Child Abuse Act to which these amendments are tagged, but opposes Congressional decision-making in the nursery. "The AMA believes governmental intervention intrudes on the rights and responsibilities of parents, physicians, and institutions. Imposition of procedures would create an atmosphere of unwarranted mistrust and create legal pitfalls of enormous proportions," says AMA Executive Vice President James H. Sammons, M.D.

\* \* \* \*

### **AIDS Number One Health Problem, Dr. Brandt Says**

Assistant Secretary for Health Edward N. Brandt, Jr., M.D., has urged all physicians and health care institutions to report cases of Acquired Immune Deficiency Syndrome (AIDS) to state health departments, assisting the government in the investigation of what he calls "the nation's number one health problem."

Meanwhile, AIDS patients have been granted almost automatic eligibility for disability benefits under Social Security. SSA made the decision in May to provide coverage after the Center for Disease Control (CDC) and scientists at Johns Hopkins University advised that the disease has identifiable symptoms and has "an exceedingly high mortality rate."

In his first news conference on AIDS, Dr. Brandt announced that CDC is expected to make AIDS "a notifiable disease in all states, improving the reporting and surveillance procedures for the disease around the country. Until now, reporting procedures varied from state to state and the CDC was not always routinely notified of cases.

The CDC also plans to assign public health advisors to San Francisco, Los Angeles and Miami. Because most cases of AIDS appear in urban areas, city health officials have an especially important role to play in the AIDS investigation, Dr. Brandt stressed.

"Every physician should be aware of the possibility of AIDS when patients with malaise, weight loss, lymphadenopathy, and light fever are diagnosed," Dr. Brandt said. "Cases of AIDS should be reported immediately to state and local health officials. These officials and the Public Health Service can provide consultation to physicians. While the exact association between blood and blood products and the development of AIDS is unknown, physicians should adhere strictly to medical indications for transfusions. Autologous blood transfusions should be encouraged."

Dr. Brandt pledged that \$14.3 million will be spent on AIDS research in fiscal 1983, nearly three times last year's AIDS expenditure. He announced four of the new AIDS research grants awarded by the National Cancer Institute to R. Gordon Douglas, M.D., of Cornell Medical Center, New York; James Mullins, Ph.D., of Harvard University, Boston; Frederick Siegel, M.D., of Mt. Sinai Medical Center, New York; and Paul Volberding, M.D., of the University of California at Los Angeles. Two new AIDS grants from the National Institute of Allergy and Infectious Diseases will go to Arye Rubenstein, M.D., of Yeshiva University, New York; and John Fahey, M.D., University of California, San Francisco. More grants will be awarded soon.

Dr. Brandt reminded the public that:

- Sexual contact should be avoided with persons known or suspected of having AIDS;
- Members of groups at increased risk for AIDS should refrain from donating plasma or blood products;

- Researchers should evaluate the effectiveness of screening procedures in identifying and excluding blood with a high probability of transmitting AIDS;
- Work should continue towards the development of safer blood products for use by hemophilia patients.

AIDS is not a threat to the general public, Dr. Brandt added. "We have seen no evidence that it is breaking out from the originally defined high risk groups. I personally do not think there is any reason for panic among the general population."

In San Francisco, some landlords have evicted tenants who contracted the disease. The city has since established counseling groups to provide housing for victims, and has offered space in a special ward at the San Francisco General Hospital.

The San Francisco Police Department has dispensed special gloves and masks for police officers handling "a suspected AIDS patient." The officers fear they could catch the disease by administering mouth-to-mouth resuscitation to patients.

Los Angeles medical personnel have refused to care for AIDS patients or handle blood samples and transfusions. AIDS hotlines have received calls asking if the disease can be picked up from toilet seats or subway straps.

In New York, inmates of the state prison in Auburn refused to eat meals or use utensils from the prison's mess hall, fearing that food prepared by the prison might be contaminated by other inmates with the disease. Thirty-five inmates in New York prisons have been confirmed as having AIDS.

"There is no evidence to date that indicates AIDS is spread by casual contact. On the contrary, our findings indicate that AIDS is spread almost entirely through sexual contact, through the sharing of needles by drug abusers, and less commonly, through blood or blood products. For these reasons, there is no cause for fear among the general public that individuals may develop AIDS through casual contact with an AIDS patient," Dr. Brandt said.

\* \* \* \*



# keeping up

## Category 1 Continuing Medical Education Programs Available in Arkansas

### VASCULAR DISEASE

*September 17, 8:00 a.m. to 12:30 p.m., Shuffield Auditorium, Baptist Medical Center.*

### PRACTICAL RHEUMATOLOGY REVIEW

Presented by Peter Singleton, M.D., F.A.C.P., Chief of Rheumatology and Clinical Immunology, Letterman Army Medical Center, San Francisco, California, *September 20, 7:00 p.m., Education Building, Baxter General Hospital, Mountain Home.* Two hours Category I credit. No registration fee.

### TOPICS IN GLAUCOMA

Presented by William C. Layden, M.D., Professor and Chairman, Ophthalmology Department, University of Southern Florida, Tampa, *September 23, 8:30 a.m., Red Apple Inn, Heber Springs.* Sponsored by the Arkansas Academy of Ophthalmology. Six hours Category I credit. Registration fee \$50.

### FLEXIBLE FIBEROPTIC SIGNOIDOSCOPY AN INTRODUCTORY COURSE

Presented by the Gastroenterology Staff at Baptist Medical Center, *September 24, 8:00 a.m. to 5:00 p.m., Shuffield Auditorium, BMC.* Registration fee \$20.

### ATLS CONFERENCE

Presented by Patrick Osam, M.D., *September*

*24-25, 8:00 a.m. to 6:00 p.m., UAMS, Ed II Building, Room G/131A.* Sponsored by UAMS. 16 hours Category I credit. Registration fee \$375.

### BIOLOGY OF AGING: IMMUNOLOGIC ASPECTS

Presented by David A. Lipschitz, M.D., *September 29, 8:00 a.m. to 12:30 p.m., UAMS, Shorey Auditorium (Ed I).* Four hours Category I credit. No registration fee.

### MECHANICAL VENTILATOR MANAGEMENT

Presented by Roger C. Bone, M.D., F.A.C.P., Chief of Pulmonary Division, UAMS, *October 18, 7:00 p.m., Education Building, Baxter General Hospital, Mountain Home.* Two hours Category I credit. No registration fee.

### PSYCHIATRY UPDATE: STEP PARENTING WORKSHOP

Presented by W. Payton Kolb, M.D., and S. Otho Hesterly, Ph.D., *October 14-16, (no time indicated), Arlington Hotel, Hot Springs.* Sponsored by UAMS. Six hours Category I credit. Registration fee \$75.

### MEDICINE AND RELIGION CONFERENCE

Presented by Fred O. Henker, M.D., *October 15, UAMS Education II Building.* Seven hours Category I credit. Registration fee \$5.

### SECOND ANNUAL EMERGENCY CARE SEMINAR

*October 14-15, Arkansas Children's Hospital.*

### RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours of Category I credit.

#### EL DORADO — AHEC-SOUTH ARKANSAS

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

#### FAYETTEVILLE — AHEC-NW

*Medicine Teaching Conference*, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

#### FAYETTEVILLE — VA MEDICAL CENTER

*Pathology Conference*, third Thursday, 3:00 p.m., Conference Room.

*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.

*Mortality Conference*, second Thursday, 3:00 p.m., Conference Room.

*Peer Exchange*, September: "Rheumatology", Eleanor Lipsmeyer, M.D.

As organizations accredited for continuing medical education by the Accreditation Council for Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

### FORT SMITH — AHEC

*Tumor Conference*, each Tuesday, 12:00 noon, Sparks Regional Medical Center, Fourth Floor Conference Room.  
*Neurology Conference*, second Tuesday, 12:15 p.m., Sparks Regional Medical Center Library.  
*Dermatology Conference*, first Thursday, 12:15 p.m., Sparks Regional Medical Center Library.  
*Thoracic and Cardiovascular Conference*, third Thursday, 12:15 p.m., Sparks Regional Medical Center.

### JONESBORO — AHEC-NORTHEAST

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.  
*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.  
*OB/GYN/PED Conference*, last Tuesday, 5:30 p.m., St. Bernard's Dietary Conference Room.  
*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Continuing Medical Lecture Series*, each Friday, 12:00 noon, #1 Stroud Hall, St. Bernard's Annex Building.  
*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

### LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Burn Conference Room.  
*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Physicians' Conference Room.  
*Primary Care Seminar*, each Wednesday, 8:15 a.m., Physicians' Conference Room.  
*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Polly R. Thomas Dining Room.  
*Infectious Disease Conference*, second Wednesday, 12:00 noon, Physicians' Conference Room.  
*Problem Case Conference*, each Thursday, 12:00 noon, Physicians' Conference Room.

### LITTLE ROCK — BAPTIST MEDICAL CENTER

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.  
*Emergency Medicine Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.  
*Case of the Month*, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*General Internal Medicine Conference*, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*Renal Conference*, fifth or last Wednesday each month, 12:00 noon to 1:00 p.m., Conference Room #1. (When there are four Wednesdays in the month, conference will be on fourth Wednesday and there will only be one Case of the Month Conference.)  
*Morbidity and Mortality Conference*, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.  
*Surgery Conference*, second, third, fourth and fifth Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.  
*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.  
*Cardiology Conference*, fourth Thursday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*Cardiopulmonary Resuscitation Course*, fourth Thursday, 7:00 p.m. to 1:00 a.m., Shuffield Auditorium. Six hours Category 1 credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

### LITTLE ROCK — ST. VINCENT INFIRMARY

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.  
*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.  
*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.  
*Gynecology Conference*, second Tuesday, 5:30 p.m. to 6:30 p.m., Radiology Classroom S-1025.  
*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory.  
*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.  
*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.  
*Hematology-Oncology Conference*, Second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.  
*Cardiology Conference*, fourth Thursday, 12:00 noon to 1:00 p.m., Room E-155, Education Wing.

### LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

*Psychiatry Grand Rounds*, each Monday, 12:00 noon to 1:00 p.m., Child Study Center Auditorium.  
*Ophthalmology Morning Conference*, each Monday, Wednesday, and Friday, 7:30 a.m., Education II Building, Room G/104A.  
*Pediatric Critical Care Conference*, fourth Monday, 4:00 p.m., G1/108A&B.  
*Orthopaedic Fracture Conference*, each Tuesday, 7:00 a.m., Education II Building, Room G1/135.  
*Orthopaedic Bibliography Conference*, each Tuesday, 8:00 a.m., Education II Building, Room G1/135.  
*Orthopaedic Grand Rounds*, each Tuesday, 10:00 a.m., Education II Building, Room G1/135.  
*Orthopaedic Basic Science Conference*, each Tuesday, 11:00 a.m., Education II Building, Room G1/135.  
*Radiology Imaging Conference*, each Tuesday, 8:00 a.m., and Thursday, 4:00 p.m., M1/293.  
*Medicine Subspecialty Conference*, each Tuesday, 12:15 p.m., Education II Building, Room G/141A.  
*Gynecology Pathology Conference*, each Tuesday, 3:30 p.m., 4D27.  
*Infectious Disease Journal Club*, each Wednesday, 7:30 a.m., 3E06.  
*Perinatal Medicine Conference*, second and fourth Wednesday, 8:00 a.m., 4D27.  
*Medicine-Pathology Conference*, each Wednesday, 12:15 p.m., Education II Building, Room G/141.



*Neuroradiology Case Conference*, each Wednesday, 4:00 p.m., M1/293.  
*Medicine Grand Rounds*, each Thursday, 8:00 a.m., Shorey Auditorium.  
*OB Perinatal-Neonatal Ultrasonnd Conference*, each Thursday, 11:00 a.m., M1/274.  
*GI Problem Case Conference*, each Thursday, 3:30 p.m., Hospital 3D29.  
*Ophthalmology Problem Case Conference*, each Thursday, 4:00 p.m., ACC 3/150.  
*GI Journal Club*, each Friday, 7:30 a.m., Hospital 3D29.  
*Pediatrics Medicine Endocrine Conference*, each Friday, 7:30 a.m., 3E06.  
*ICU Conference*, each Friday, 12:15 p.m., Education II Building, Room G/141A.

#### TEXARKANA — AHEC-SOUTHWEST

*AHEC Tumor Conference*, first Wednesday, 7:00 a.m., St. Michael Hospital.  
*AHEC Chest Conference*, third Wednesday, 12:30 p.m., St. Michael Hospital.  
*AHEC Regional Nephrology Conference*, fourth Wednesday, 7:00 a.m., St. Michael Hospital.



## PERSONAL AND NEWS ITEMS

#### Dr. Campbell Honored

Dr. Gilbert Campbell of Little Rock was named "Surgical Alumnus of the Year for 1983" at the University of Minnesota at Minneapolis.

Dr. Campbell presented two lectures at the 47th Annual Continuation Course in Surgery held in conjunction with the annual meeting of Minnesota Surgical Residents' Society. His topics were "Management of Corrosive Strictures of the Esophagus" and "Management of Esophageal Perforations."

#### Dr. Holder Delegate

Dr. Robert Holder represented the First United Methodist Church of Bentonville as alternate delegate to the United Methodist North Arkansas annual conference recently held at Hendricks College.

#### Dr. Broadwater Elected

Dr. John Broadwater of Fort Smith has been named president-elect of The Fletcher Society, an international scientific society. Dr. Broadwater was elected at the society's eighth annual meeting held in Dijon, France.

#### Dr. Wisdom Honored

Dr. Durwood Wisdom of Jonesboro was chosen "Boss of the Year" by the Craighead County Medical Assistants Society.

#### Dr. Capes Speaks

Dr. Bernard Capes of West Helena spoke at a meeting of Helena Hospital physicians and staff

on the diagnosis and treatment of depression in children and the elderly.

#### Dr. Kolb Elected To Board

Dr. W. Payton Kolb of Little Rock has been elected to the Board of Directors of the Central Arkansas Health Systems Agency.

#### Dr. Duncan Speaks

Dr. Phillip Duncan of Fayetteville spoke on pharmacology and chronic disease at a recent meeting of the Better Breathers Club.

#### Dr. Koone Locates

Dr. Michael D. Koone has opened an office at No. 2 Hospital Drive in Morrilton. He has also joined the medical staff of the Conway County Hospital emergency room.

#### Dr. Landrum

Dr. Sam Landrum of Fort Smith presented a program on car seat safety at an Early Parenting Class sponsored by the Western Arkansas Childbirth Association.

#### Doctor Appreciation

Physicians in Hope sponsor a baseball league and the players recently honored them with a Sponsors' Appreciation Night. Among the doctors honored were Drs. Asa Warmack, George Wright, George Garrett and Lowell Harris.

#### Berryville Gains Physicians

Two physicians have located in Berryville. Dr. Robert Buffaloe and Dr. Harold F. Stensby have joined the Northwest Arkansas Medical Center.

**Dr. Blackwell In China**

Dr. Banks Blackwell of Pine Bluff recently visited China on tour with the Association of Orthopaedic Chairmen as a guest of the Chinese Medical Association. The group lectured in Beijing, Tianjin, and Shanghai. Dr. Blackwell presented material on the Cementless Ceramic Total Hip Replacement and the Freeman-Samuelson Cementless Total Knee Replacement.

**Dr. Pillsbury Speaks**

Dr. Richard C. Pillsbury of El Dorado spoke to the Rotary Club on the status of health care for the area.

**Dr. Benjamin Speaks**

Dr. George Benjamin of Siloam Springs spoke at a seminar on "Nutrition and Weight in the '80's" sponsored by the Siloam Springs Memorial Hospital.

**Dr. Stearns Donates**

Dr. David Stearns donated Medical AntiShock Trousers to the DeQueen General Hospital emergency room.

**Dr. Felker Appears**

Dr. Gary Felker of Fort Smith participated in a program on eye and kidney transplants on the local television program "Dialogue."

**Dr. Haller Locates**

Dr. Jeffrey M. Haller has joined Dr. Henry Edwards in Van Buren for the practice of Internal Medicine.

**Dr. Jacobson Speaks**

Dr. Joseph Jacobson spoke to the Osceola Kiwanis Club on the rising costs in health care.

**Dr. Hardin Certified**

Dr. Philip R. Hardin of Mountain Home has been board certified in Dermatopathology.

**Dr. Saltzman Speaks**

Dr. Ben Saltzman of Little Rock spoke at a meeting of the Dallas County Health Advisory Committee on several health related topics.

**Dr. Westbrook Director**

Dr. Kent Westbrook of Little Rock directed the fifth annual Oncology Assistantship Program sponsored by the University of Arkansas College of Medicine. The program is designed to allow selected medical students to obtain an in-depth exposure to clinical Oncology training.

**Dr. Smith Moves**

Dr. Phillip L. Smith, formerly of Little Rock, has associated with a group of radiologists at 911 West Grand in Hot Springs.

**Dr. Pappas**

Dr. James Pappas of Little Rock has been appointed Clinical Professor in the Department of Otolaryngology and Maxillofacial Surgery at the University of Arkansas College of Medicine. Dr. Pappas limits his private practice to Otology.



**DR. ROBERT P. HUMPHREYS**

Dr. Humphreys, a native of Hot Springs, has joined the Garland County Medical Society.

He received a Bachelor of Arts in Chemistry in 1970 from Hendrix College at Conway. In 1976, he was graduated from the University of Arkansas College of Medicine. After an internship with Methodist Hospital in Dallas, Dr. Humphreys trained in Anesthesiology at Parkland Hospital in Dallas in 1978.

Dr. Humphreys moved to Hot Springs in 1979. He practiced with St. Joseph Hospital from 1979 to 1981. In October 1981, he began practice at Ouachita Hospital in Hot Springs.

Dr. Humphreys specializes in Anesthesiology. He is associated with Anesthesia Service, P.A., at 229 Hazel Street in Hot Springs.

**DR. J. KELLY MAHONE**

Dr. Mahone, another new member of Garland County Medical Society, was born in Hobart, Oklahoma.

His pre-med education was with Tulane University in New Orleans and the University of Oklahoma in Oklahoma City. He received a Bachelor of Arts degree in 1972. Dr. Mahone is a 1976 graduate of the University of Oklahoma College of Medicine. His internship and residency were with Baylor University Medical Center in Dallas, Texas. He is a member of the Candidate group of the American College of Surgeons.



## NEW MEMBERS

Dr. Mahone specializes in General Surgery. His office is located at 905 West Grand in Hot Springs.

### DR. L. T. GATES

Dr. Gates, a new member of the Monroe County Medical Society, was born in Hughes.

He received a Bachelor of Science degree from Arkansas AM&N College in Pine Bluff in 1970. Dr. Gates is a 1974 graduate of the University of Washington School of Medicine.

Dr. Gates was a member of the United States Army from 1974 to 1979. He served his internship and residency at Madigan Army Medical Center in Tacoma, Washington. While in the Army, he served at Fort Lewis and Fort Sill. Dr. Gates was associated with Reynolds Army Hospital in 1977-79. He practiced in Binger, Oklahoma, from 1979 to 1980 and in North Little Rock from 1981 to 1982. In 1982, he located in Brinkley.

Dr. Gates specializes in Family Practice and is board certified in his specialty. His office is at 112 North New York in Brinkley.

### DR. ANTHONY D. JOHNSON

Dr. Johnson, a new member of the Pulaski County Medical Society, was born in Wichita, Kansas.

Dr. Johnson received his Bachelor of Science in Zoology in 1976 from the Arkansas State University at Jonesboro. He was graduated from the University of Arkansas College of Medicine in 1980. Dr. Johnson served his Pediatrics internship and residency at University Hospital and Arkansas Children's Hospital.

He specializes in Pediatrics. Dr. Johnson has joined the Arkansas Pediatric Clinic at 500 South University in Little Rock.

### DR. DALE E. JOHNSTON

Dr. Johnston, a new member of the Pulaski County Medical Society, was born in Pittsburgh, Pennsylvania.

He received Bachelor of Science and Master of Science degrees from the University of Pittsburgh in Pennsylvania. Dr. Johnston received his Doctor of Medicine degree from Jefferson Medical College in Philadelphia in 1979. He served a Radiology internship and residency at Mallinckrodt Institute of Radiology which is affiliated with the Washington University School of Medicine in St. Louis, Missouri. He is board certified in Radiology.

Dr. Johnston practices Radiology at 500 South University in Little Rock.

### DR. DAVID J. MARZEWSKI

Dr. Marzewski, a native of Philadelphia, Pennsylvania, has joined the Sebastian County Medical Society.

He was granted a Bachelor of Arts degree in Biology from the La Salle College in Philadelphia in 1970. Dr. Marzewski was graduated from the Hanemann Medical College of Philadelphia in 1974.

Dr. Marzewski's internship was with the Geisinger Medical Center in Danville, Pennsylvania. He also served a residency in Internal Medicine at the same institution and then served for several months as an assistant to the Neurology Department at the Center. He received residency training in Neurology at the Cleveland Clinic. He is certified by the American Board of Internal Medicine.

Dr. Marzewski specializes in Neurology. He is associated with the Holt-Krock Clinic at 1500 Dodson in Fort Smith.

## RESIDENT AND INTERN MEMBERS

### DR. W. E. McCOLLUM

Dr. McCollum, a 1983 graduate of the University of Arkansas College of Medicine, has joined the Benton County Medical Society. He is an intern at St. Francis Hospital in Tulsa, Oklahoma.

Dr. McCollum is the son of Dr. Edward McCollum of Decatur, Arkansas.



## THINGS



## TO COME

### September 15-17

*Combined Fall Meeting Arkansas Society of Internal Medicine—American College of Physicians. Ozark Folk Center, Mountain View, Arkansas. ASIM banquet and panel program on new methods of health care delivery and reimbursement on Thursday evening. ASIM business meeting Friday at 1:00 p.m.*

### September 23 and 24

*Fall Meeting of the Arkansas Academy of Ophthalmology. Red Apple Inn, Heber Springs.*

Guest speaker will be Dr. William Layden, Professor and Chairman of the Department of Ophthalmology at the University of South Florida in Tampa. Dr. Layden will speak on glaucoma.

Registration fee for meeting is \$50 and should be mailed to Dr. Carol Chappell by August 15th at 5700 West Markham, Little Rock 72205. For further information, you may contact Dr. Chappell (phone 664-5100) or Mr. Craig Barnes at 666-3312.

#### **September 28-29**

*Medical-Legal Symposium.* American Society of Internal Medicine and American College of Legal Medicine. Hyatt Embarcadero, San Francisco. For further information, contact Shirley Nycum or Ellen Schweitzer at ASIM 1-800-368-5652.

#### **September 29-October 2**

*27th Annual Meeting, American Society of Internal Medicine.* "A Prescription for Change." Hyatt Embarcadero, San Francisco.

Hotel reservations must be made direct with Hyatt by September 7th.

For further information contact ASIM at 1-800-368-5652.

#### **September 30-October 1**

*Pulmonary Update, 1983.* Sponsored by The University of Tennessee College of Medicine and Baptist Memorial Hospital. 10 hours Category I AMA; 10 hours Prescribed credit AAFP; 1.0 Continuing Education Units.

For further information, call Educational Support Services at 1-800-238-6893 outside Tennessee or 1-800-542-6848 in Tennessee.

#### **October 6-7**

*Conference for physicians on diabetes and other endocrine and metabolic disorders.* Sponsored by the University of Mississippi Medical Center. Holiday Inn Medical Center, Jackson. 11.33 hours Category I, AMA; 11.33 contact hours American Academy of Family Practice; Continuing education credit 1.1 hours.

For further information, contact Continuing Education, University of Mississippi Medical Center, 2500 North State Street, Jackson, Mississippi 39216.

#### **October 13-14**

*Medical Malpractice Seminar* sponsored by the Southern Medical Association. Hyatt Regency, Crystal City, Arlington, Virginia. \$220 for SMA members; \$275 for non-members. For further information, contact Ms. Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201 or phone 205-323-4400.

#### **November 6-9**

*77th Annual Scientific Assembly.* Southern Medical Association. Baltimore Convention Center, Maryland. Postgraduate courses \$15 for SMA members; \$22.50 for non-members.

For further information, contact Ms. Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; phone 205-323-4400.

### **1984**

#### **April 12-15**

*108th Annual Session, Arkansas Medical Society.* Excelsior Hotel and Statehouse Convention Center, Little Rock.





September, 1983

# THE JOURNAL OF THE Arkansas MEDICAL SOCIETY

Vol. 80 No. 4

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# The Management of Suspected AIDS Patients

Dowling B. Stough\* and Richard F. Jacobs, M.D.\*\*

Periodically, new diseases emerge to challenge the medical profession. Legionnaire's disease, Toxic Shock Syndrome, Kawasaki's syndrome, and the Acquired Immunodeficiency Syndrome (AIDS) are recent examples. This paper briefly summarizes current methods of evaluating suspected AIDS patients, risk factors from documented cases, and referral studies available in Arkansas.

The Center for Disease Control defines AIDS as, "a disease, at least moderately predictive of a defect in cell-mediated immunity, occurring in a person with no known cause of diminished resistance to that disease."<sup>1</sup> Mortality has been reported as high as 80%<sup>2</sup> with an average of 10 to 20 new cases diagnosed weekly. There have been 1,641 cases reported in the United States and Puerto Rico through June 24, 1983. Until recently, the outbreaks of AIDS have been largely confined to specific groups in coastal and metropolitan areas. However, local physicians have confirmed two fatal cases of AIDS in Arkansas and requests for immunology screening are increasing. Physicians should be aware of the specific groups that are known to be at high risk for the acquired immunodeficiency syndrome (Table 1).

## ETIOLOGY

The medical profession was alerted to AIDS in 1979. Four years later, questions concerning the etiology and appropriate therapy still remain an enigma. Numerous theories as to its cause include immunosuppression from the following: retroviruses (human T-cell leukemia virus), cytomegalovirus (CMV), Epstein-Barr virus, chronic continuous antigen exposure, or some as yet unidentified viral or toxic agent.<sup>3</sup> The evidence for an infectious agent is supported by the clusters of AIDS cases among homosexuals and potential sexual, as well as blood product transmission. There are reports of infants with unexplained immuno-

deficiency and opportunistic infections who have resided in households with AIDS contacts or AIDS patients. A blood-borne route of transmission is suggested by the case report of a 20-month child with lethal AIDS following a blood transfusion from a donor who subsequently developed AIDS.<sup>4</sup>

Over 50% of AIDS patients acquire *Pneumocystis carinii* pneumonia; this protozoan-like organism causes a severe interstitial pneumonia that often requires assisted ventilation. Pneumocystis is an ubiquitous organism which is felt to be relatively avirulent in healthy adults; the diagnosis may be confirmed by histologic examination of transbronchial biopsy or open lung biopsy material.

Kaposi's sarcoma develops in 30% of AIDS patients. Characteristic purple nodular skin lesions are often present on the upper trunk and extremities. The diagnosis is made by biopsy of skin lesions or lymph nodes. The propensity for Kaposi's sarcoma may depend on oncogenes and environmental factors.<sup>5</sup> It has been proposed that when immune surveillance mechanisms are suppressed, there is an activation of an oncogenic virus that may result in development of Kaposi's sarcoma. High titers of cytomegalovirus have been found in many patients with Kaposi's sarcoma.

Table 1.

### Identified Risk Factors in Documented Cases<sup>1</sup>

1. Homosexual or bisexual males—71.3%
2. Intravenous drug abusers with no history of homosexual activity (male or female) — 17.3%
3. Haitian immigrants without history of homosexual activity or drug abuse—5%
4. Hemophilia patients receiving factor VIII—0.3% (Increased risk with amount of replacement therapy required)
5. Persons not in the above groups, i.e., female prostitutes, females with bisexual partners, and children of mothers with high risk factors —5.8%

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This serologic analysis implies a close association between Kaposi's sarcoma and cytomegalovirus, but does not establish CMV as a causative agent.<sup>6</sup>

Although Kaposi's sarcoma and *Pneumocystis carinii* now dominate the clinical analysis, Table 2 illustrates the wide spectrum of opportunistic infections often seen in AIDS victims. The diagnosis is further complicated by a latent period of 5 to 38 months from contact to manifestations of symptoms.<sup>7</sup> Treatment of these opportunistic infections is difficult because of the slow or unresponsive nature, relapses, and neoplastic complications.<sup>8</sup>

### IMMUNOLOGIC ABNORMALITIES

The immune system is conceptualized as being divided into two components: humoral and cellular. It has been noted that some forms of immunity could be transferred by serum, i.e., "humoral immunity," whereas, other forms were transferred only by cells, i.e. "cellular immunity." The humoral pathway involves the production of specific antibodies formed by the differentiation of antigen-stimulated B lymphocytes. The cell-mediated pathway is responsible for the delayed hypersensitivity reaction mediated by T-lymphocytes. The T-cells play a major role in rejection of grafts and are felt to be important in tumor surveillance.<sup>9</sup> They provide protection against viruses, intracellular bacteria and exogenous para-

sites. These cells act as the central portion of the immune system, orchestrating the type, amount and duration of the response to an antigen.<sup>10</sup> T-lymphocytes may be divided into several subpopulations; T helper and T suppressor cells are two of these subpopulations.

The T helper cells are able to recognize different antigens, to induce other T-cells to become cytotoxic, and to prompt B-cells to divide and produce antibodies. The T suppressor cell reduces or "down-regulates" the magnitude of the immune response to a specific antigen.<sup>10</sup> AIDS patients have an alteration in the ratio of T helper to T suppressor lymphocytes. Instead of the normal ratio of approximately 1-2 to 1, these patients have a selective decrease of T helper cells and a helper/suppressor ratio of less than 1. However, an inverted helper-suppressor ratio is also seen in many asymptomatic hemophiliacs, and in patients with infections due to CMV, EBV, histoplasmosis, toxoplasmosis, and herpes simplex.<sup>5</sup>

Cases of persistent generalized unexplained lymphadenopathy among male homosexuals have been reported to CDC since October, 1981. The immunologic evaluation of this male lymphadenopathy syndrome also demonstrates similar inverted helper to suppressor ratios. Periodic review of the homosexual male patient with persistent, unexplained, generalized lymphadenopathy is advised.<sup>11</sup>

The single most effective office procedure for evaluating cell-mediated immunity is the delayed skin test. An erythematous and indurated area at the site of injection of a common skin test antigen within 24 to 96 hours indicates that the delayed hypersensitivity immune response is intact. When an AIDS case is suspected, the delayed skin test is imperative, as cutaneous anergy is a common finding among AIDS patients. In addition, the syndrome is also characterized by peripheral lymphocytopenia. Other immunologic alterations include: diminished lymphocyte proliferative responses to mitogens and antigens, increased circulating immunoglobulins (especially IgA) and reduced natural killer cell activity.

### PHYSICAL FINDINGS

Physical examination of "high risk" patients may alert the physician to suspect potential AIDS. Patients with fever, anorexia, weight loss and persistent "mononucleosis" warrant further evaluation. Fundoscopic examinations may indicate "benign" abnormalities. Early ocular findings in

**Table 2. AIDS Opportunistic Infections<sup>9</sup>**

<b>I. PARASITIC</b>	
	<i>Pneumocystis carinii</i> , pneumonitis
	<i>Cryptosporidium</i> , enterocolitis
	<i>Toxoplasma gondii</i> , CNS infection
<b>II FUNGAL</b>	
	<i>Candida albicans</i> , esophagitis
	<i>Cryptococcal neoformans</i> , fungemia and meningitis
	<i>Histoplasma capsulatum</i> , disseminated
	Aspergillosis, pulmonary
<b>III. VIRAL</b>	
	Cytomegalovirus, disseminated
	Herpes simplex, ulcerative perianal
	Papovaviruses, multifocal leukencephalopathy
	Epstein-Barr Virus
<b>IV. BACTERIAL</b>	
	<i>Mycobacterium avium-intracellulare</i> , disseminated
	<i>Mycobacterium tuberculosis</i> , miliary
	Salmonella, bacteremia



AIDS patients have included cotton-wool spots, uveitis, and retinal hemorrhages.<sup>12</sup> A review of patients with documented AIDS reveals a wide range of early findings. Respiratory illness, perianal ulcers, skin lesions, oral thrush unresponsive to therapy, and persistent lymphadenopathy are clues to justify a full AIDS investigation (Table 3).

### PRECAUTIONS

Although the risk should be seriously considered, there has not been a documented case of AIDS transmission to hospital personnel from contact with affected patients or clinical specimens. The predominant modes of transmission seem to be person-to-person involving intimate contact of mucosal surfaces and/or parenteral spread. The possibility of blood-borne spread is suspected and considered valid, but not proven. However, it appears prudent for hospital personnel to use precautions while caring for AIDS patients (Table 4), and it is the responsibility of physicians to notify laboratory personnel before contact with clinical specimens (Table 5).<sup>13</sup> All suspected AIDS patients should be isolated in a private room using the same precautions as with hepatitis patients.

### REFERRAL STUDIES

After the initial screening, all suspected AIDS patients should be referred to an appropriate center with capabilities to evaluate lymphocyte subpopulations and function (Table 6). To date, no assay has been developed which is both selective and sensitive as a screen for AIDS. The Immunology Laboratory at Arkansas Children's Hospital currently offers the important secondary

**Table 3. Recommended Initial Screening**

**GENERAL**—History and physical examination  
(Including sexual and drug history, exposure to blood products)  
**HEMATOLOGY**—Complete blood cell count  
**HUMORAL IMMUNITY**—Quantitative immunoglobulins (IgG, IgA and IgM)  
**CELLULAR IMMUNITY**—Skin testing with several of the following: Candida, tuberculin, mumps, trichophyton, tetanus  
**CHEST X-RAY**  
**THROAT AND RECTAL CULTURES**—if clinically indicated  
**MONO-SPOT TEST**  
**TITERS FOR CMV**—draw and hold serum for comparison of acute and convalescent titers

**Table 4. Recommendations for Physicians and Hospital Personnel<sup>1,6</sup>**

1. Avoid contact of open skin lesions with material from AIDS patients.
2. Gloves should be worn when handling blood specimens, blood-soiled items, body fluids, excretions and secretions, as well as all surfaces, materials, and objects exposed to them.
3. Gowns should be worn when clothing may be soiled with body fluids, blood, secretions or excretions.
4. Hands should be washed thoroughly and immediately if they become contaminated with blood, also after removing gowns and gloves and before leaving the rooms of known or suspected AIDS patients.
5. Blood and other specimens should be labeled prominently with a special warning, such as "BLOOD PRECAUTIONS" or "AIDS PRECAUTIONS," and transported to the laboratory in disposable specimen bags.
6. Articles soiled with blood should be placed in an impervious bag, prominently labeled "AIDS PRECAUTIONS" or "BLOOD PRECAUTIONS," before being sent for reprocessing or disposal. Reusable items should be reprocessed in accordance with the hospital's policies for hepatitis B virus-contaminated items.
7. Instruments with lenses should be sterilized after use on AIDS patients.
8. Needles should not be bent after use, but should be promptly placed in a puncture-resistant container used solely for such disposal.

**Table 5. Laboratory Precautions**

1. Mechanical pipetting, not mouth pipetting, should be used for the manipulation of all liquids in the laboratory.
2. Needles and syringes should be promptly placed in puncture-resistant containers for their disposal.
3. Laboratory coats, gowns, or uniforms should be worn while working with potentially infectious materials and should be discarded appropriately before leaving the laboratory.
4. Gloves should be worn to avoid skin contact with blood, specimens containing blood, blood-soiled items, body fluids, excretions and secretions, as well as surfaces, materials and objects exposed to them.

5. Biological safety cabinets and other primary containment devices are advised whenever procedures are conducted that have a high potential for creating aerosols or infectious droplets.
6. Laboratory work surfaces should be decontaminated with a disinfectant, such as sodium hypochlorite solution following any spill of potentially infectious material and at the completion of work activities.
7. All potentially contaminated materials used in laboratory tests should be decontaminated, preferably by autoclaving, before disposal or reprocessing.
8. All personnel should wash their hands following completion of laboratory activities, removal of protective clothing, and before leaving the laboratory.

**Table 6. Referral Studies Available at Arkansas Children's Hospital**

1. Complete blood cell count with differential
2. Percentage of B cells
3. Percentage of T cells
4. Quantitative T helper and T suppressor cell populations
5. Mitogen and antigen transformation

tests to validate the diagnosis. These tests are arranged only after consultation with a referring physician.

### CONCLUSION

With the incidence of AIDS increasing to epidemic proportions, physicians in Arkansas will be challenged with suspected cases. The disease is no longer confined solely to the high risk groups, nor to metropolitan areas. Although many questions remain concerning etiology, the data suggests and infectious agent. The physician should be aware that AIDS cases are often refractory to

standard therapy; however, experimental drugs are under investigation for treatment of these opportunistic infections. When an AIDS case is confirmed, the patient should be referred to a center with appropriate treatment capabilities.

### REFERENCES

1. CDC. Update on acquired immune deficiency syndrome (AIDS)—United States. Morbidity Mortality Weekly Report 31 (37):507-514, 1982.
2. Davis, K. C., Horsburgh, C. R., Hasiba, U., Schocket, A. L., and Kirkpatrick, C. H.: Acquired immunodeficiency syndrome in a patient with hemophilia. *Ann. Int. Med.* 3:2284-2285, 1983.
3. Elliott, J. L., Hoppes, W. L., and Platt, M. S., et al: The acquired immunodeficiency syndrome and mycobacterium avium-intracellulare bacteremia in a patient with hemophilia. *Ann. Int. Med.* 98:290-293, 1983.
4. Oleske, J. M., and Minnefor, A. B.: Acquired immune deficiency syndrome in children. *Pediatr. Infec. Dis.* 2 (2):85-86, 1983.
5. Grieco, M. H.: The epidemic of acquired immune deficiency syndrome (AIDS). *NER Allergy Proc.* 4(2):104-107, 1983.
6. Urmacher, C., and Myskowski, P., et al: Outbreak of Kaposi's sarcoma with cytomegalovirus infection in young homosexual men. *Am. J. Med.* 72:569-575, 1982.
7. Worsmer, G. P., and Krupp, L. B., et al: Acquired immunodeficiency syndrome in male prisoners. *Ann. Int. Med.* 98:297-303, 1983.
8. Ciobanu, N., and Andreeff, M., et al: Lymphoblastic neoplasia in a homosexual patient with Kaposi's sarcoma. *Ann. Int. Med.* 98:151-155, 1983.
9. Stites, D. P., and Stobo, J. D., et al: *Basic and Clinical Immunology*, 4 edition, Lange Medical Publications, Los Altos, CA, p. 237.
10. Brody, N. I.: Utilizing new immunologic techniques in dermatology. *Mediguide to Skin Conditions* 1 (3):1-5, 1982.
11. CDC. Persistent, generalized lymphadenopathy among homosexual males. Morbidity Mortality Weekly Report 31 (19):249-251, 1982.
12. Newman, N. M., and Mandel, M. R., et al: Clinical and histological findings in opportunistic ocular infections. *Arch Ophthalmol* 101:396-401, 1983.
13. CDC. Acquired immune deficiency syndrome (AIDS): Precautions for clinical laboratory staffs. Morbidity and Mortality Weekly Report 31 (4):576-579, 1982.





# Endoscopic Sclerotherapy for Bleeding Esophageal Varices

F. Navab and G. D. Slaton, M.D.\*

It has been estimated that variceal bleeding occurs in 10-15 percent of all types of upper gastrointestinal hemorrhage.<sup>1,2</sup> Bleeding from esophageal varices is related to portal hypertension. Patients who have a portal pressure higher than 12-14 mmHg, and those with large sized varices are more likely to bleed.<sup>3</sup> The most common cause of portal hypertension in the United States is alcoholic cirrhosis. However, the site of upper gastrointestinal hemorrhage in these patients is not always esophageal varices. Approximately a third of patients with alcoholic liver disease and documented varices are found to be bleeding from one or more extravariceal sites.<sup>1,4,5</sup> In these patients, bleeding may be from hemorrhagic gastritis, gastric ulcer, duodenal ulcer, Mallory-Weiss Tear, or esophagitis.

The outlook of hepatic cirrhosis complicated by portal hypertension is poor with approximately one-third of patients dying from variceal hemorrhage.<sup>6</sup> Acute variceal bleeding has an in-hospital mortality of 30 percent for the first bleeding episode,<sup>7</sup> but the mortality rate may increase to 75 percent in patients with poor hepatic function.<sup>8</sup> The mortality at six weeks is 42 percent and only 30-40 percent of patients survive one year. At least 60 percent of the deaths in the first six weeks and 40 percent of deaths later on are attributable to variceal bleeding. One-third of patients who survive their initial hemorrhage bleed again within six weeks, and another third have subsequent hemorrhage.<sup>9</sup> The prognosis of patients who survive hospitalization for bleeding varices may not be much worse than patients with similar hepatic function but who have never bled. Analysis of survival<sup>10</sup> suggests that if medically treated patients who die within the first two days of their bleeding episode are excluded, this results in an increase of one year survival from 35 to 45 percent. Thus, if there is to be an improvement in survival of cirrhotic patients with variceal hemorrhage, treatment should be directed toward reducing early mortality associated with the bleed, or reducing the chances of rebleeding.

It has become clear that survival of patients with hepatic cirrhosis and varices is not affected

by prophylactic portocaval shunting.<sup>7</sup> After variceal hemorrhage, therapeutic shunting does reduce the incidence of further bleeding to five percent.<sup>11</sup> However, this success rate is dependent on the shunt remaining patent. A wide range of survival of 30-69 percent has been reported for therapeutic shunting<sup>11,12</sup> probably related to patient selection. After shunting, a rising incidence of portosystemic encephalopathy is observed as the length of follow-up is increased. The incidence may be reduced from 52 percent which occurs after nonselective shunt, to 12 percent after distal splenorenal shunt.<sup>13</sup> Since portocaval shunting does not appear to increase survival significantly,<sup>11,14</sup> alternate methods of therapy have been examined.

Esophageal transection involves division of varices both on the surface of the esophagus and also in the mucosa. This method requires that the patient can withstand a thoracotomy. Unfortunately, this operation is associated with an operative mortality of over 50 percent and a high incidence of recurrent bleeding.<sup>15</sup> A more recent technique involves use of a universal stapling gun and surgery is done through a laparotomy. It is associated with a low operative mortality and there is a high success rate in arresting bleeding.<sup>16,17</sup>

Transhepatic sclerotherapy involves injection of thrombin into a catheter inserted percutaneously through the liver and guided to the splenic vein into the coronary vein or gastroesophageal veins.<sup>18,19</sup> Although varices are obliterated in 80 percent of cases, the procedure is associated with an incidence of recurrent hemorrhage of 65 percent.

Resurgence of interest in sclerotherapy followed a report of a prospective trial from South Africa.<sup>20</sup> They used a rigid esophagoscope and were able to control bleeding in over 90 percent of patients with one to three courses of injections. Three groups of patients were studied: I—active variceal bleeding: 71 patients; II—variceal bleeding that had stopped: 33 patients; III—bleeding from another lesion: 39 patients. Sixty-six patients in group I had sclerotherapy. Seventy percent of these patients were controlled with a single course of injections; 22 percent required two or three courses. Seven patients bled from sites other than

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varices in later admissions. These included five hemorrhagic gastritis, one gastric ulcer, and one duodenal ulcer. The mortality was 28 percent per hospital admission and 19 percent per variceal bleed. Liver failure was the major cause of death. This trial was uncontrolled and clearly results from other centers using controlled conditions were needed.

The first prospective randomized trial was reported by Clark, et al,<sup>21</sup> from the Liver Unit at Kings College Hospital, London, UK. They studied 64 patients with cirrhosis and recent variceal hemorrhage. In the group treated with sclerotherapy (36 patients) the recurrence rate of bleeding was 33 percent, whereas in 28 patients receiving standard treatment, it was 68 percent. One year survival appeared to be improved with sclerotherapy to 46 percent compared with 6 percent in the control group. However, the survival difference was not statistically significant because of the small numbers.

A subsequent report from the same center<sup>22</sup> which included 43 more patients now showed that survival was significantly improved. They randomly allocated 51 patients to sclerotherapy and 56 patients to a control group. Their results showed: (1) frequency of rebleeding was 43 percent in the sclerotherapy group and most of these were within the first three months; it was 75 percent in the control group; (2) recurrence of bleeding from varices occurred in only 4 of 42 patients (9.5 percent) in whom varices had been obliterated; (3) obliteration was achieved in 60 percent of patients in three months, with 3-4 courses of injections; (4) the site of bleeding was usually at or just above the gastroesophageal junction; (5) the risk of rebleeding was highest in Child category C and this was reduced to the greatest extent by sclerotherapy; and (6) one year survival was 58 percent in the control group. It was 75 percent in the sclerotherapy group and this was significantly higher.

A recent controlled trial has been reported in abstract from Los Angeles.<sup>23</sup> They treated 21 patients with sclerotherapy and 23 were in the control group. Sclerotherapy significantly reduced excessive bleeding and transfusion requirements. However, no significant difference was found in long-term survival over 154 months.

One of the problems in drawing conclusions from different trials has been a difference in technique used by various groups. For instance, Ter-

blanche, et al,<sup>20</sup> used a rigid endoscope and some of their patients had tamponade after sclerotherapy. They used ethanolamine oleate as sclerosant. MacDougall, et al,<sup>22</sup> used a flexible endoscope and the same sclerosant. The procedure was carried out under a general anesthetic. Balart, et al,<sup>23</sup> used a flexible endoscope and a mixture of tetradecyl-sulfate and dextrose as the sclerosant. Other differences included patient selection, the use of an overtube or balloon compression, and timing of repeat injections. The volume of sclerosant used, the size of needle and the site or speed of injection is not standardized. In some European centers the sclerosant is injected submucosally,<sup>24</sup> but in this country every attempt is made to inject into the vein.

In the dog model,<sup>25</sup> the most effective and damaging sclerosant has been found to be in this order: (1) 95 percent ethanol, (2) 1.5 percent tetradecyl sulfate, (3) 5 percent sodium morrhuate, (4) 5 percent ethanolamine oleate, (5) a mixture of tetradecyl, thrombin and 50 percent dextrose.

Sclerosis of esophageal varices may not be effective when the site of varices is gastric. However, a study of esophageal venography<sup>26</sup> during variceal sclerosis showed that in 15 percent of injections contrast migrated caudally into the gastric varices. This occurred whether a proximal esophageal balloon was used or not. The pathological result of sclerotherapy has not been clarified. Autopsy findings<sup>27</sup> indicate that thrombosis and tissue necrosis is present within 24 hours, ulceration after seven days, and fibrosis after one month.

The complication rate of sclerotherapy is affected by the type of sclerosant used and the number of injections. Gibbert, et al,<sup>28</sup> found esophageal ulceration in 70 percent of cases injected with sodium morrhuate, but only in 20 percent of those given tetradecyl sulfate.

Complications in one series of 51 patients<sup>23</sup> included esophageal ulcer: 15, stricture: 9, and perforation: 2. Esophageal ulcerations appear to be more frequent if more than three courses of injections are used.<sup>23</sup> Healing occurs with cimetidine and antacids. Occasionally a pleural effusion develops, and bacteremia has been treated successfully with antibiotics. Stricture has been treated successfully with dilation. Long-term adverse effects of sclerotherapy have not been described. By esophageal manometry, no changes were observed in lower esophageal sphincter pressure, prevalence of reflux, or rate of peristalsis. How-



ever, peristaltic wave abnormalities were greater after sclerosis.<sup>29</sup>

Resurgence of interest in endoscopic variceal sclerosis is due to the following: (1) results of shunt trials are now available and do not show conclusive evidence of increased survival; (2) poor outlook of patients who continue bleeding or have recurrent bleeding; (3) fiberoptic endoscopes are now available, making the procedure technically easier; (4) realization that in most patients the procedure can be done without a general anesthetic; and (5) better understanding of management of hepatic failure. We now have experience in four patients, but our numbers are too small to draw conclusions. Bleeding was controlled in three cases, but one patient succumbed after hemorrhage from a stress ulcer.

In conclusion, endoscopic sclerotherapy is effective in controlling variceal hemorrhage, reduces transfusion requirements and reduces recurrent bleeding. Some studies indicate that it also increases survival. It is therefore indicated in uncontrolled variceal bleeding when other methods such as vasopressin infusion and balloon tamponade have been ineffective. It is used in recurrent variceal hemorrhage and to control bleeding before a shunt operation. Other indications include patients who are not operative candidates or who refuse surgery. Finally, it may be performed in situations when there is not sufficient blood available or if surgical expertise is lacking.

More randomized controlled trials are required to confirm that this procedure does increase survival, particularly in patients who stop bleeding with standard therapy. It remains to be determined whether the quality of life of patients who undergo sclerotherapy is altered. Certainly a procedure entailing several intra-esophageal injections is likely to prove stressful to the patient. Administration of a tranquilizing agent and cimetidine may be indicated.

We wish to acknowledge helpful suggestions by Dr. E. Clinton Texter, Jr., Professor of Medicine, Physiology and Biophysics, and Director of Gastroenterology, and Margaret Morrison for typing this manuscript.

#### REFERENCES

- Palmer, E. D. The vigorous diagnostic approach to upper gastrointestinal tract hemorrhage. A 23-year prospective study of 1,400 patients. *J Am Med Assoc* 207:1477-80, 1969.
- Gilbert, D. A., Silverstein, F. E., and Tedesco, F. J., et al. The national ASGE survey on upper gastrointestinal bleeding. *Gastroenter Endosc* 27:73-9, 1981.
- Lebre, D., DeFleury, P., and Rueff, B., et al. Portal hypertension, size of esophageal varices and risk of gastrointestinal bleeding in alcoholic cirrhosis. *Gastroenterology* 79:1139-44, 1980.
- Novis, B. H., Duys, P., and Barbezat, G. O., et al. Fibre-optic endoscopy and the use of the Sengstaken tube in acute gastrointestinal hemorrhage in patients with portal hypertension and varices. *Gut* 17:258-62, 1976.
- Koff, R. S. Benefit of endoscopy in upper gastrointestinal bleeding in patients with liver disease. *Dig Dis Sci* 26:128-158, 1981.
- Garcean, A. J. Boston Inter-Hospital Liver Group: The natural history of cirrhosis. II. The influence of alcohol and prior hepatitis on pathology and prognosis. *NEJM* 271:1173-9, 1964.
- Resnick, R. H., Chalmers, T. C., and Ishihara, A. M., et al. A controlled study of prophylactic portacaval shunts: A final report. *Ann Intern Med* 70:675-88, 1969.
- Soederlund C. Variceal hemorrhage. *Gastroenterology* 81:635-36, 1981.
- Graham, D. Y., and Smith, J. L. The course of patients following variceal hemorrhage. *Gastroenterology* 80:800-09, 1981.
- Smith, J. L., and Graham, D. Y. Variceal hemorrhage: a critical evaluation of survival analysis. *Gastroenterology* 82:968-73, 1982.
- Resnick, R. H., Iber, F. L., and Ishihara, A. M., et al. A controlled study of the therapeutic portacaval shunt. *Gastroenterology* 67:843-57, 1974.
- Orloff, M. J., Charters, A. C., III, and Chandler, J. G., et al. Portacaval shunt as emergency procedure in unselected patients with alcoholic cirrhosis. *Surg Gynecol Obstet* 141:59-68, 1975.
- Orloff, M. J., Bell, R. H., Jr., and Hyde, P. V., et al. Long-term results of emergency portacaval shunt for bleeding esophageal varices in unselected patients with alcoholic cirrhosis. *Ann Surg* 192:325-40, 1980.
- Rikkers, L. F., Rudman, D., and Galambos, J. T., et al. A randomized, controlled trial of the distal splenorenal shunt. *Ann Surg* 188:271-80.
- Smith-Laing, G., Scott, J., and Long, R. G., et al. Role of percutaneous transhepatic obliteration of varices in the management of hemorrhage from gastroesophageal varices. *Gastroenterology* 80:1031-36, 1981.
- Reynolds, T. B., Donovan, A. J., and Mikkelsen, W. P., et al. Results of a 12-year randomized trial of portacaval shunting in patients with alcoholic liver disease and bleeding varices. *Gastroenterology* 80:1005-11, 1981.
- George, P., Brown, C., and Ridgway, G., et al. Emergency oesophageal transection in uncontrolled variceal hemorrhage. *Brit J Surg* 60:635-40, 1973.
- Johnston, G. W. Simplified esophageal transection for bleeding varices. *Brit Med J* i:1388-91, 1978.
- Cooperman, M., Fabri, P. J., and Martin, E. W., Jr., et al. EEA esophageal stapling for control of bleeding esophageal varices. *Am J Surg* 140:821-24, 1980.
- Lunderquist, A., Vang, J. Transhepatic catheterization and obliteration of the coronary vein in patients with

- portal hypertension and esophageal varices. *NEJM* 291:646-49, 1974.
19. Freeny, P. C., and Kidd, R. Transhepatic portal venography and selective obliteration of gastroesophageal varices using isobutyl 2-cyanoacrylate (Bucrylate). *Dig Dis Sci* 24:321-330, 1979.
20. Terblanche, J., Northover, J. M. A., and Bornmann, P. A prospective evaluation of injection sclerotherapy in the treatment of acute bleeding from oesophageal varices. *Surgery* 85: 239-245, 1979.
21. Clark, A. W., Westaby, D., and Silk, D. B. A., et al. Prospective controlled trial of injection sclerotherapy in patients with cirrhosis and recent variceal hemorrhage. *Lancet* 2:552-551, 1980.
22. MacDougall, B. R. D., Westaby, D., and Theodossi, A., et al. Increased long term survival in variceal hemorrhage using injection sclerotherapy: results of a controlled trial. *Lancet* 1:124-127, 1982.
28. Balart, L. A., Larson, A. W., and Radvan, G. A., et al. A prospective controlled trial of endoscopic sclerotherapy in variceal bleeding: Progress report. *Hepatology* 2:240A, 1982.
24. Kjaergaard, J., Fischer, A., and Miskowiak, J. et al. Sclerotherapy of bleeding esophageal varices. *Scand J. Gastroenterol* 17:363-67, 1982.
25. Silpa, M. L., Jensen, D. M., and Tapia, J. I., et al. Evaluation of endoscopic methods for hemostasis of bleeding canine esophageal varices. *Dig Dis Week Proc* p. A-20, May 1982.
26. Grobe, J. L., Kozarek, R. A., and Sanowski, R. A., et al. Esophageal venography during endoscopic variceal sclerosis. *Dig Dis Week Proc*, p. A-92, May 1982.
27. Evans, D. M. D., Jones, D. B., Cleary, B. K., and Smith, P. M. Oesophageal varices treated by sclerotherapy: a histopathological study. *Gut* 23:615-20, 1982.
28. Gibbert, V., Feinstat, T., and Burns, M., et al. A comparison of the sclerosing agents sodium tetradecyl sulfate and sodium morrhuate in endoscopic injection sclerosis of esophageal varices. *Dig Dis Week Proc* p. A-90, May 1982.
29. Schade, R. R., Reilly, J. J., Cavalier, J. S., and Van Thiel, D. H. Variceal sclerosis: does it have longterm adverse effects upon the esophagus. *Hepatology* 2: 712A, 1982.





# Eye Problems of Prematurity — Alert

Mary Wackerhagen, Orthoptist\*

This year is the 40th anniversary of Terry's report on retrolental fibroplasia. It is fitting to briefly discuss this condition which now is called retinopathy of prematurity. In the late 40's and early 50's the new closed incubators resulted in a dramatic increase in the incidence of retrolental fibroplasia, almost to epidemic levels. In the 1950's this became the largest single cause of childhood blindness. In the United States this retinopathy led to more blindness than all other causes combined. Then controlled laboratory studies showed oxygen as the cause of RLF, resulting in a worldwide reduction of its use in incubators. This in turn brought a dramatic reduction in the incidence of RLF. Then came reports in the early 60's that oxygen curtailment might have serious side effects such as cerebral palsy and increased mortality from hyaline membrane disease. Consequently oxygen was again used more freely. In the mid and late 60's arterial blood-gas monitoring helped give a more objective method of assessment of oxygen therapy. Now in the 70's and 80's the National Society to Prevent Blindness and Ophthalmology report a *moderate increase again in the incidence of premature retinopathy*. The reason—modern advances in neonatology—resulting in a pronounced 4-5 fold increase in premature infant survival. These small survivors require careful attention of ophthalmologists as well as pediatricians. Studies show that intervention is possible. The *best age* at which an infant should be examined ophthalmologically is *7 to 9 weeks*. These children should also *be followed* very carefully by an ophthalmologist to find out if their

large refractive errors of prematurity are still in existence and apt to interfere with the visual development and function. We would like to bring this point to the attention of all neonatologists, pediatricians, and family practitioners, who in turn should advise the parents.

Recent eye examinations of premature children reinforced this point. Several of these children were having their first eye examination at ages 5 to 10 years. Parents stated that they were not advised at the time of birth that visual abnormalities could be present. For example: 1. congenital infections; 2. developmental anomalies; 3. retrolental fibroplasia from high oxygen levels; 4. greater incidence of strabismus (eye muscle imbalance); 5. refractive errors such as myopia of prematurity in early infancy which may or may not continue into childhood.

More than 70% of prematures have one diopter or more of astigmatism, with 83% of it against the rule. The *amounts* of myopia and astigmatism are *more severe*, and the *incidence* is *higher* than in children of normal birth weight. Due to the 32% incidence of anisometropia (large difference between the two eyes) there is also an increased risk of amblyopia, the "lazy eye." Amblyopia is also an obstacle to fusion, the use of the two eyes together.

Arkansas ranks 12th in the United States in premature births, 7.8% compared to the United States average of 7.15%. (5.6% for whites; 10.3% for non-whites. With a high incidence of premature births in the state we certainly need to be aware of all kinds of care these infants should have, and also be sure to *advise their parents*.

\*Alford Eye Clinic, Ltd., 5700 West Markham, Little Rock, Arkansas.



# ELECTROCARDIOGRAM



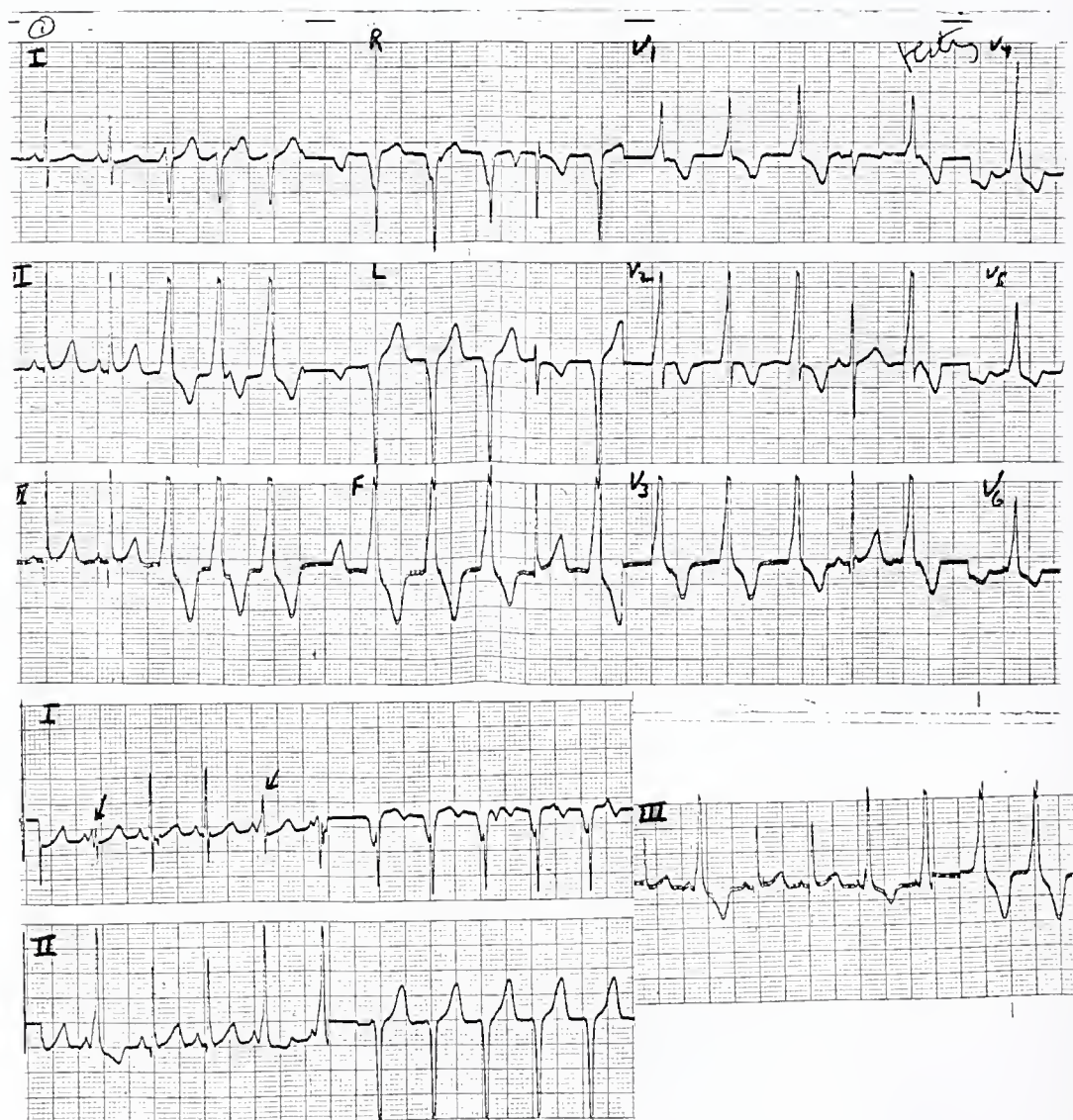
# OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 185)

HISTORY: R. S. is a 26-year-old female who was found on routine examination by her local physician to have an irregular pulse. Her past history was completely negative. Except for an irregular pulse, her physical examination was normal. Her ECG is shown below. What do you think about this arrhythmia?



John W. Watson, M.D.

UAMS-LRVAMC Division of Cardiology

Little Rock, Arkansas





# Office Orthopaedics

## "The Gravity of the Situation"

Charles C. Schock, M.D.\*

A certain well-endowed actress, upon appearing at a social event in an unusually low-cut strapless evening gown, was asked by an impressed reporter, "What holds it up?" "Gravity", she replied. "Gravity?" he questioned. "Yes, the gravity of the situation," she explained, "were it to fall down."

Gravity also sometimes plays an important role in orthopedic treatment. In such motions as shoulder flexion/abduction, or hip abduction in stance phase of gait, we are repeatedly called upon to oppose gravity. When such motions are painful, continued voluntary effort to perform them becomes difficult, or near impossible.

This point was personally driven home to me a few years ago, when a close family member, recovering from a modified radical mastectomy, was attempting to increase shoulder range of motion. Active flexion/abduction was painful and ineffective. Codman's pendulum exercises were helpful in increasing shoulder motion to 90°, but full motion remained painfully elusive.

Basic science concepts welled up from the past; "immature scar tissue can stretch out under stress over time." The principle which so often works against us following ligament repairs could perhaps, in this case, be used to advantage. Viscosity made useful.

Possibly re-inventing the wheel, I devised a recumbent exercise in which the supine patient positioned the arm, elbow extended, just shy of the position of flexion contracture. Flexion beyond 90° already having been achieved, further flexion in the supine position was gently encouraged by gravity. The joint was simply held at its maximum position of flexion and, with

gravity assisting, gently "leaned on" by muscular effort to a point of minimal to moderate discomfort. Persistence and relaxation over several minutes, rather than short bursts of forcefulness, resulted in a steady increase in motion. The ubiquitous moist heat and mild analgesics, of course, enhanced the regimen. In effect, this program was successful in transforming gravity from a foe into an ally. With its assistance, twenty or thirty minute sessions were not at all fatiguing.

Since that time, I have found the supine, gravity assisted method useful in increasing shoulder motion in other patients. There is an additional benefit in that measurement of the distance from the mid antecubital crease to the table top (or floor) provides the patient and physician with an objective measure of progress.

An example is the case of M. L., a 28-year-old male painter who fell from a scaffold, sustaining a fracture of the surgical neck of the right humerus. He was held in good position in a shoulder immobilizer. One week later he was begun on Codman's pendulum exercises and three weeks post injury active flexion was possible to 30°. Codman's exercises were continued, as well as heat, massage, and ultrasound to the shoulder, but by six weeks post injury stiffness and soreness persisted though the fracture was healing well. Active gleno-humeral abduction was 45° at this time.

The patient was instructed in supine, gravity assisted exercises, which he did four times a day for twenty minutes following moist heat application. Initially it was noted that while the normal left shoulder allowed the antecubital crease to reach the table top with ease (Figure 1), the right

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antecubital crease lacked eleven inches from reaching the table top (Figure 2).

Two weeks later (two months post injury), active flexion and abduction of the right glenohumeral joint were both  $70^\circ$ , and supine the antecubital crease came to within  $8\frac{1}{2}$  inches of the table top, a gain of  $2\frac{1}{2}$  inches (Figure 3).

Eleven weeks post injury the antecubital lag was  $5\frac{1}{2}$  inches. Four months post injury there was full range of motion of the shoulder and the

patient was using it normally. He later developed a trigger point on the rotator cuff which responded well to steroid injection. M. L. is currently asymptomatic at full activity.

Gravity-assisted range of motion exercises can provide a gentle stretching of remodelling collagenous tissue, which may be a useful adjunct to other physiotherapeutic measures. The inventive clinician may well be able to adapt this principle to many clinical situations.



Figure 1



Figure 2

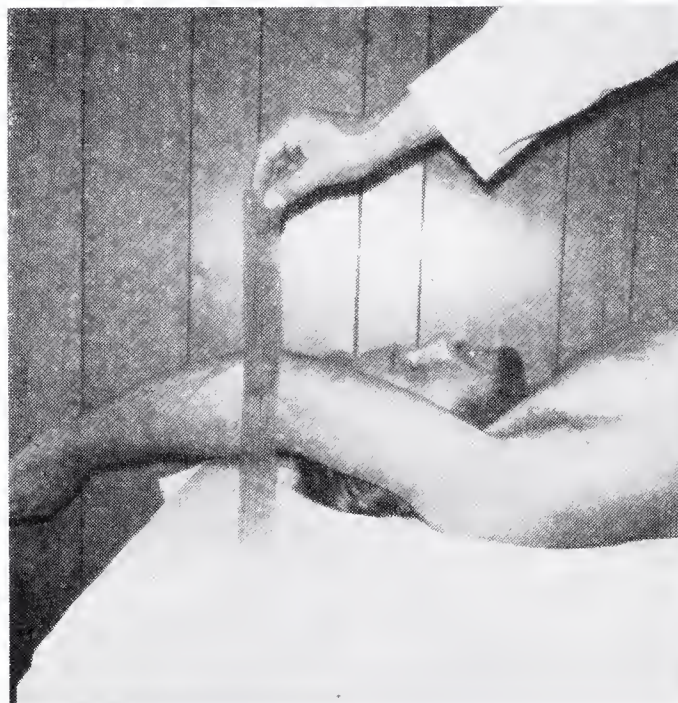


Figure 3



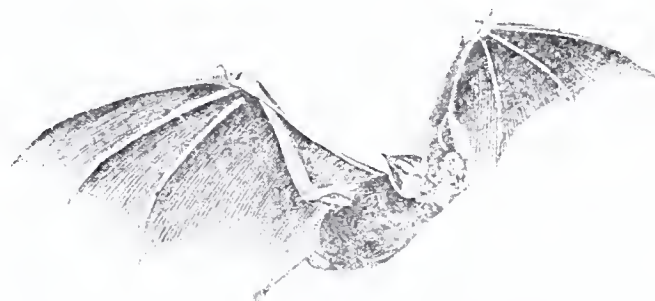


## Bat Rabies in Arkansas

T. C. McChesney, D.V.M.,\* Harton Spatz,\*\*  
and Marguerite Edelman\*\*\*

The only mammal that has wings and can fly is the bat. It gives live birth, suckles its young, and it is fur bearing. The bat's wings consist of the arms, hands, and fingers which are enormously elongated. The legs are very thin and short. A thin elastic skin stretches from the fingertips to the claws of the legs. Flight is facilitated by moving both arms and legs like a swimmer. The bat has small eyes and can see but doesn't use vision to capture insects and prey when feeding. In flight the bat emits a series of high pitched sounds which bounce back from the object and denotes its location, size and shape. Insects are caught in the wing tips and transferred to a cup in the interfemoral membrane and then eaten in flight. Bats can be distinguished from birds by their flight pattern which is jerky and without direction.

Almost all bats in the United States are insectivorous. They roost in trees, in attics of abandoned buildings, in caves, in rocky crevices, under eaves, and other suitable protected areas. Bats hang upside down by attaching their toes to tree limbs, rocks, crevices, etc., and often resemble a dry leaf when hanging from a tree by one hind limb. They may spend the summer and winter in the same area or migrate in the fall. Most bats hibernate in the winter after feeding throughout the summer increasing their weight one third in brown fat. When hibernating, the body temperature approaches that of the environment, the optimum being about 41°F. If the temperature drops, the metabolic rate increases and more fat is utilized. During hibernation, bats are helpless, but within



30 minutes after being disturbed the heart and respiration increase, and the bat may bite and be ready to fly. Bats usually live for at least ten years, and may survive to age 20.<sup>1</sup>

The Health Department is often asked for assistance in the control of bats in and around homes or office buildings. Maternal colonies are often established in the attic portion of a structure as early as April. These colonies may contain several hundred female bats which will have their young from June to August, and during that time they are most difficult to expel. During hot spells in the summer, some of the bats suffer from heat prostration and migrate out of walls and attics to the exterior or into other areas of the building. These sick bats should be captured before other animals or children attempt to pick them up. They can be caught using tongs and heavy gloves. During the winter hibernation, bats can also be physically removed by wearing gloves and using tongs.

The most effective method of removing bat colonies from buildings is to repair the structure making sure that all cracks larger than 1/4" are filled in. Louvers must be screened. Any type of caulking, foam, or insulation will prevent the bats from entering. Often bat colonies are established when repair work is started. In this case, the main entry must be plugged at night after the bats have left the roost to feed. They leave right at dusk, and the entry and exit points will have rub marks around them and bat droppings can often be found on the ground under these entrances.

Moth balls and moth crystals are effective repellents. They are most useful when the colony is located in a small area, such as a chimney, wall cavity, or flat topped building. Blowing fiber glass insulation into an attic or placing bright

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lights in a roost area often repels bats. There is no legal method of poisoning bats. When bats do come into contact with insecticides or rodenticides, the sick and dying bats are often picked up by dogs, cats, and people. From a public health standpoint, attempts to poison bats do more harm than good. Bat droppings that accumulate in the roost may contain the fungus *Histoplasma capsulatum*. Inhaled spores of this fungus may cause histoplasmosis, a disease endemic to Arkansas.

For centuries bats have been feared by man probably because they fly at night, and the vampires of South America and Mexico feed on blood from animals, and at times from humans sleeping outdoors especially when cattle or other animals are not available. Vampire bats usually locate a resting animal, and with their sharp incisor teeth cut a small incision in the skin usually above the hoof and then lap up the blood that oozes from the wound. In South America, cattle losses from rabies run in the millions annually.

Bat rabies was not recognized in the United States until June of 1953 when the virus was isolated from a yellow bat (*Dasypterus floridanus*) which had bitten a child near Tampa, Florida.

Since that time recognition of bat rabies increased to an all time high in 1979 of 750 cases reported from 46 states.<sup>2</sup> The increase in bat rabies coincides with the dramatic increase in animal rabies throughout the United States which went from 3,092 cases in 1978 to 6,060 reported cases in 1982. Approximately 85% of the animal rabies is in wildlife; skunks, bats and raccoons predominating. There has been a dramatic increase in raccoon rabies in the southeastern part of the United States which has spread northward.

Raccoon rabies in Virginia increased from 7 cases in 1980 to 432 cases in 1982. The estimated raccoon population in Arkansas is 500,000. However, there has been no raccoon rabies in the state since 1976, and at least 50 raccoon heads are tested annually. Because of the high raccoon population, should the epizootic spread to Arkansas a severe public health problem would exist.

Table I shows the number of bats testing positive in the laboratory for the past five years compared with other species.

Table II shows the number of bats in each county submitted to the Arkansas Department of Health for rabies testing and the number positive in each county for 1982. The largest number of specimens were from Pulaski and Faulkner Counties. It is not known whether there is a larger concentration of bats in these counties, or if the large numbers of submissions may be due to the higher human population and proximity to the Health Department Laboratory.

Anyone exposed to a bat or desiring to know its species and disease status, is encouraged to send the specimen to the Public Health Laboratory, Arkansas Department of Health for testing. All practicing veterinarians and county health offices have insulated containers designed for bus shipment of rabies suspect heads.

Table III shows the most common species encountered in Arkansas. To date only the red bat, and big brown bat have been found to be positive for rabies. It is hoped that in future years a more complete analysis can be made when larger numbers of bats are tested and identified. David Saugey, biologist with the U.S. Forest Service, Ouachita National Forest, phone 321-5298 is identifying bats which have been submitted to the

TABLE I  
NUMBER OF RABID BATS COMPARED TO OTHER SPECIES OF RABID ANIMALS  
FROM 1978 TO 1982

Year	Bats		Cats	Cattle	Dogs	Fox	Horses	Skunks	Other	Total
	Pos./No. Tested	Percent Pos.	Pos./No. Tested	Pos./No. Tested	Pos./No. Tested	Pos./No. Tested	Pos./No. Tested	Pos./No. Tested	Pos./No. Tested	Positive
1978	6/96	6.5%	2/434	5/43	1/492	0/14	2/6	147/254	0/363	163
1979	14/154	9.1%	3/749	8/82	3/732	1/22	2/9	301/502	0/590	332
1980	11/160	6.9%	3/608	8/69	2/701	0/13	0/11	164/281	*3/507	191
1981	18/149	12.1%	3/487	4/65	1/556	0/13	2/13	124/212	0/291	152
1982	19/149	12.8%	2/556	4/75	4/559	2/9	0/6	126/220	0/398	157

\*Goat 1/8, Swine 1/6, Weasel 1/4.

NOTE: There have been no cases of rabies in raccoons or opossums in Arkansas since 1976. There were 304 raccoons and 245 opossums tested in the Public Health Laboratory for rabies during the period from 1978-1982—all negative.



Arkansas Department of Health for testing and is available for consultation on identification and control of bats that are a problem in buildings and homes.

The red bat has about a 12-inch wing span and is bright orange to yellow-brown in color. It usually roosts in trees and is difficult to detect. It is strictly insectivorous. The big brown bat has a wing span of 13-14 inches and roosts predominantly in attics, carports, eaves, etc. It is insectivorous and varies in color from russett to dark brown.

In studies by CDC in caves of the southwestern United States, rabies virus was isolated from .5% of a sample of 2,478 apparently normal bats tested in pools of 3 or 4, and 14.6% of 199 individually tested bats which were in flight.<sup>3</sup> In contrast to the infection rates found in healthy bats, samples of moribund and abnormally behaving bats were 8.7% and 76% positive. The majority of the moribund bats were collected in the midst of die-

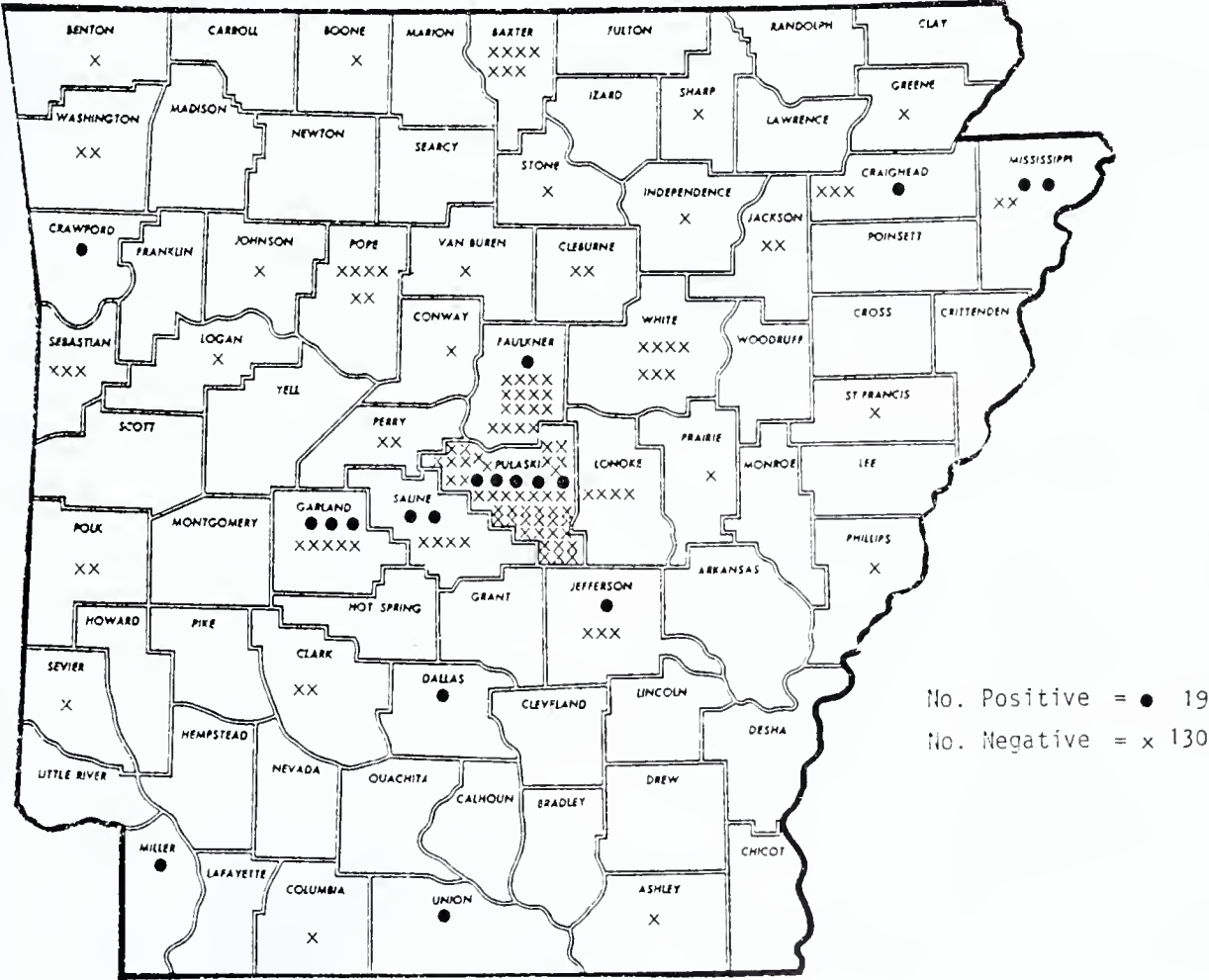
offs lasting 10 days to 3 weeks. During these die-offs, ill bats exhibited convulsions and some paralysis.

One bat kept in captivity yielded virus from a sample of its saliva obtained 16 months after capture. In addition, 19 of 42 bats collected that exhibited rabies virus in the saliva appeared normal and remained clinically normal until tested.

The data thus far, though suggestive, are not sufficiently conclusive to prove asymptomatic carriers in U. S. insectivorous bats.<sup>4</sup>

In 1956, a public health worker and in 1959, a mining engineer that entered the Frio Cave in Texas both died of rabies although neither of them were bitten by bats that inhabited the cave. During 1960-1966, Dr. D. A. Constantine and his staff using sentinel caged animals proved aerosol transmission of rabies in the Frio Cave. This was accomplished by placing insect proof cages containing skunks, fox, raccoons, dogs, cats, etc. in

TABLE II  
BREAKDOWN BY COUNTY OF BATS SUBMITTED FOR TESTING  
SHOWING NEGATIVES AND POSITIVES FOR BY 1982



the cave. After a four week period of time, some of these animals became rabid without contact with the resident bats.<sup>5</sup>

It is therefore strongly recommended that spelunkers and those working in bat caves take the pre-exposure immunization series against rabies.

Because of the ubiquitous distribution of bats and the percent positive for rabies, everyone in an outside environment is vulnerable to exposure. Some typical histories of exposure reported to the Health Department are as follows: a) The bat flew down and landed on my shoulder. I brushed him off and he bit me. b) I reached out to pick an apple off the tree, didn't see the bat roosting there until he bit me. c) I went out on the front porch to get some air and a bat flew down into my face. d) The cat brought a live bat home and my son took it away and got bitten. e) I woke up from sleep and a bat had bitten me on the foot. I don't know how it got in the house. NOTE: Bats may enter a home through the chimney, open doors to

the outside, exhaust vents, open windows, from the attic, etc. f) A neighbor boy caught the bat and took it to school to show the other children. I believe it may have bitten my daughter. g) Bats swoop down over my swimming pool and sometimes land in the water and drown. Is it safe to swim in the pool if the bat is rabid? NOTE: As a precaution, it is recommended that the swimming pool be rechlorinated and not used for 24 hours. The dilution factor, time element, and chlorine in the water render it safe for swimming.

Anyone bitten by a bat should receive post-exposure treatment unless the bat's head tests negative in the laboratory.

The Arkansas Department of Health has stocks of the new human diploid cell vaccine which is available on call to physicians throughout the state. Phone the Veterinary Public Health Office, Arkansas Department of Health, 661-2597 or 2264 for consultation and vaccine which can be delivered within 12 hours.

Post-exposure treatment includes human rabies

**TABLE III**  
**BATS SUBMITTED FOR RABIES TESTING SHOWING**  
**SPECIES, SEX AND PERCENT POSITIVE FOR RABIES**  
**1982**

Species	Total Tested	M	Sex F	Unk.	No. Negative	No. Positive	Percent Positive
<i>Lasiurus borealis</i> (red bat)	35	18	12	5	26	9	25.7%
<i>Eptesicus fuscus</i> (big brown)	24	12	11	1	21	3	12.5%
<i>Nycticeius humeralis</i> (evening bat)	13	6	6	1	13	0	0
<i>Pipistrellus subflavus</i> (eastern pipistrella)	4	1	3	0	4	0	0
<i>Lasiurus cinereus</i> (hoary bat)	2	1	0	1	2	0	0
<i>Myotis lucifugus</i> (little brown bat)	2	0	2	0	2	0	0
<i>Plecotus rafinesquei</i> (eastern big-eared)	2	2	0	0	2	0	0
<i>Myotis grisescens</i> *(gray bat)	2	2	0	0	2	0	0
Brazilian (free-tail bat)	1	1	0	0	1	0	0
<i>Lasionycteris noctivagans</i> (silver-haired bat)	1	0	1	0	1	0	0
Unidentified bats	63	—	—	63	56	7	12. %
<b>TOTAL</b>	<b>149</b>	<b>43</b>	<b>35</b>	<b>71</b>	<b>130</b>	<b>19</b>	<b>12.8%</b>

\*Endangered species.



immune globulin and human diploid cell vaccine (HDCV). The globulin is administered only once on the first day of treatment at a rate of 2 ml per 33 pounds of body weight intramuscularly—one half to be injected around the bite if in a fleshy part of the body.

Also on the first day of treatment administer the first dose of (HDCV). The first of the five individual doses of the freeze dried killed virus vaccine is recombined with the accompanying 1 ml vial of sterile water and injected IM in the deltoid muscle. The second injection is given three days later. The 3rd injection seven days after the 1st injection, the 4th injection 14 days from the 1st injection, and the 5th and last injection is given on the 28th day after the series began. CDC will no longer test the patient's serum for

antibody response since practically all receiving vaccine have developed protective antibody titers.

Personnel in the rabies testing laboratory, Arkansas Department of Health conduct fluorescent antibody testing on suspect head tissue daily during the week and on Saturday mornings. Their timely and accurate reporting is the foundation of the rabies control program.

#### REFERENCES

1. Barbour, Roger W., and Davis, Wayne H.: *Bats of America* (University Press of Kentucky, 1969), pp. 8-12.
2. Centers for Disease Control: "Rabies Surveillance Annual Summary", 1979. Issued October, 1981, p. 1.
3. Tierkel, Earnest S.: Rabies CDC from Advances in Veterinary Science, Vol. 5, 1959, Copyright 1959 by Academic Press, pp. 202-203.
4. Tierkel, op. cit.
5. Constantine, Denny G.: DVM, MPH, "Rabies Transmission by Air in Bat Cave", Public Health Publication 1617, June 1967, p. 30.

## THINGS TO COME



### October 5-9

*Extremity and Spinal Joint Manual Therapy Workshop.* The University of Mississippi Medical Center. Holiday Inn Downtown, Jackson. Fee \$280. Registration limited. For more information, contact Continuing Education, University of Mississippi Medical Center, 2500 North State Street, Jackson, Mississippi 39216; phone 601-987-4914.

### October 15

*Religion and Ethics Seminar.* Sponsored by the Committee on Medicine and Religion, Arkansas Medical Society. Education II Building, University of Arkansas for Medical Sciences.

For further information, contact Dr. Walter O'Neal, 9601 Interstate 630, Little Rock 72205; phone 227-2672.

## 1984

### February 2-5

*Southwest Allergy Forum.* Baylor College of Medicine. Hotel Inter-Continental, Houston, Texas. For further information, contact The Office of Continuing Education, Baylor College of Medicine, Program Coordinator — Carol Soroka,

Texas Medical Center, Houston, Texas 77030; phone 713-799-6020.

### March 12-16

*Annual Meeting of the United States-Canadian Division of the International Academy of Pathology.* San Francisco Hilton, California. For further information, contact Dr. Nathan Kaufman, Secretary-Treasurer, United States-Canadian Division of the International Academy of Pathology, 1003 Chafee Avenue, Augusta, Georgia 30904; telephone 404-724-2973.

### April 12-15

*108th Annual Session, Arkansas Medical Society.* Excelsior Hotel and Statehouse Convention Center, Little Rock.

### ANSWER—Electrocardiogram of the Month

**DISCUSSION:** The ECG initially shows a sinus rhythm at a rate of 125/minute. Then, at a rate of 150/minute, one notes a broad QRS regular arrhythmia through which P-waves can be marched. Ventricular fusion beats are seen in several sections of the trace. For example, the first and the fourth beat in the rhythm strip indicated by the arrows are fusion beats. The wide beats in V<sub>1</sub> are seen at a slower rate of about 110/minute. The presence of fusion beats and AV dissociation strongly suggests that the wide QRS regular tachyarrhythmia at the 150/minute rate is ventricular tachycardia. The slower broad QRS arrhythmia is probably AIVR.

## Clinical Incidence and Causes of Metabolic Alkalosis in Children

Watson C. Arnold, M.D.\* and Robert H. Warren, M.D.\*\*

### INTRODUCTION:

Metabolic alkalosis is an infrequent cause of acid-base disorders, especially in children. The etiologies of metabolic alkalosis in adults have been well-documented and include prolonged loss of gastric secretions from nasogastric suction, chronic diuretic therapy, and hyperaldosteronism.<sup>1-3</sup> In children the most common causes of metabolic alkalosis reported have been pyloric stenosis, chronic diuretic therapy and, more recently, cystic fibrosis.<sup>4-7</sup> Few reports have documented the relative incidence and causes of metabolic alkalosis in children. This paper reviews the children diagnosed as having metabolic alkalosis on admission to a children's hospital. In this study, cystic fibrosis was found to be the second most frequent cause of metabolic alkalosis in children.

### METHODS:

During a two-year period all patients presenting with metabolic alkalosis to Arkansas Children's Hospital were followed prospectively. Metabolic alkalosis was defined as a blood pH greater than 7.45 or a serum bicarbonate greater than 28 meq/L. In addition, the charts of all patients having a diagnosis of either pyloric stenosis or cystic fibrosis were reviewed retrospectively for the same two-year period.

Serum concentrations of sodium and potassium were measured by flame spectrophotometer. Chloride and bicarbonate were measured on a Beckman Chloride-CO<sub>2</sub> analyser and arterial blood gases were determined on a Beckman Blood Gas Analyser. Concentrations of chloride in sweat were measured on a Buehler chloridometer. All other laboratory tests were performed in the hospital laboratory on an Automatic Clinical Analyser (Dupont).

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### RESULTS:

There were thirty cases of metabolic alkalosis from a total of 8,500 pediatric admissions during the two-year study period (0.35% of admissions). The causes of metabolic alkalosis in these children are shown in Table 1. Twelve of thirty children (40%) admitted for metabolic alkalosis had a diagnosis of pyloric stenosis. Ten of the thirty patients (33%) with metabolic alkalosis had cystic fibrosis on admission. Eight children (27%) had metabolic alkalosis from other causes.

Twenty-five patients, ages 3-10 weeks, were admitted with a diagnosis of pyloric stenosis over the two-year period. Twelve (47%) had metabolic alkalosis on admission. All the patients with pyloric stenosis had a history of vomiting and were found to have pyloric hypertrophy by radiological examination.

Twenty-nine patients with cystic fibrosis were admitted during the two years of study. Ten of these (34%), ages 5 months to 12 years, had a metabolic alkalosis on admission. In six patients the metabolic alkalosis was present on their initial presentation for cystic fibrosis. Eight of the patients with cystic fibrosis and metabolic alkalosis were admitted during the summer months and gave a history of profuse sweating and dehydration with minimal vomiting. Urinary chloride in the two patients with cystic fibrosis in which it was measured was less than 10 meq/L. Sweat chlo-

Table 1:  
Causes of Metabolic Alkalosis in Children

Diagnosis	No. of	
	Patients	% Total
Pyloric Stenosis	12	40
Cystic Fibrosis	10	33
Neomullsoy + vomiting	5	16.5
Diuretic induced	1	3.5
Congenital Chloride diarrhea	1	3.5
Cryptococcal meningitis + vomiting	1	3.5
	30	100%



ride concentrations were greater than 70 meq/L in the three children who had sweat chloride concentrations measured while hypochloremic.

During this period, five patients who had been ingesting Neomullsoy<sup>®</sup> were admitted for metabolic alkalosis. Though this group initially presented with laboratory findings similar to those of Bartter's Syndrome, the metabolic alkalosis was easily corrected with small amounts of KCL (1-2 meq/kg for 1-2 weeks) and all laboratory incides return to normal without further therapy.

#### DISCUSSION:

Metabolic alkalosis is an uncommon disturbance of acid-base balance. It results from the gain of exogenous bicarbonate or from the loss of hydrogen chloride and hypovolemia. The contraction of extracellular fluid volume perpetuates the alkalosis by increasing proximal tubular sodium and bicarbonate reabsorption. Increased aldosterone secretion results in hypokalemia and contributes to the maintenance of alkalosis. The alkalosis persists until the chloride and potassium deficits are repaired.<sup>1-2</sup> We found three major causes of metabolic alkalosis in the children in our series: (1) pyloric stenosis with vomiting and loss of gastric secretions, (2) cystic fibrosis with hypovolemia and the loss of chloride and potassium in the sweat and urine, and (3) vomiting with the ingestion of a low chloride diet.

The association of pyloric stenosis and metabolic alkalosis is well-documented and results from vomiting and the loss of hydrogen rich gastric secretions.<sup>4,5</sup> Potassium is also lost in the gastric secretions and in the urine in these patients. Normally, during vomiting if there is no pyloric obstruction, alkaline small bowel secretions are lost in addition to gastric secretions and the child will maintain a normal acid-base status. In our series the children with pyloric stenosis who gave the longest history of vomiting had developed the most severe cases of metabolic alkalosis.

Recently, patients with cystic fibrosis have been reported as presenting with metabolic alkalosis without a history of vomiting.<sup>6,7</sup> Of note in this series and others, all the children presenting with cystic fibrosis and metabolic alkalosis were five months of age or older while all the children with pyloric stenosis were two months of age or less.<sup>6,7</sup> Children with cystic fibrosis lose chloride in their sweat, and most cases of metabolic alkalosis in patients with cystic fibrosis have been associated with excessive sweating, especially in hot weather.<sup>6</sup>

Children with cystic fibrosis have a larger volume of sweat than normal children and a larger amount of chloride and potassium in that sweat.<sup>8</sup> The sweat glands respond to aldosterone in a manner similar to the distal tubules of the kidney and increased potassium may be lost in the sweat when the patient is hypovolemic. In addition, children with cystic fibrosis are unable to acclimate by decreasing the volume of sweat.

Five children were noted to have metabolic alkalosis while ingesting Neomullsoy<sup>®</sup>. This formula contained low concentrations of chloride (1-2 meq/L) and 4-5 meq of potassium. It has subsequently been removed from the market.<sup>9-10</sup> All these children were referred for failure to thrive two to four months after their initial episode of vomiting. The children all gave a history of muscle weakness, listlessness, poor feeding and poor growth. The children on the low chloride diet with metabolic alkalosis grew normally once their acid base status was corrected by 1-2 meq/kg/day of KCl. Since correction of their electrolyte abnormalities they have thrived and have grown normally. This cause of metabolic alkalosis has been reviewed extensively elsewhere.<sup>9</sup>

The therapy for metabolic alkalosis is designed to replace the volume, chloride and potassium deficits.<sup>1</sup> In some patients with hypokalemia and an inappropriately elevated urinary chloride concentration (greater than 10 meq/L), large amounts of potassium supplementation may be needed to correct their alkalosis.<sup>2</sup> The occurrence of the cases caused by ingestion of a low chloride formula emphasize the importance of volume replacement with chloride containing fluids, particularly during episodes of vomiting and diarrhea, and demonstrate that metabolic alkalosis may be prolonged by inadequate chloride replacement.<sup>11</sup>

This small series demonstrates that metabolic alkalosis is an unusual but not a rare occurrence in pediatric practice occurring in 0.3% of all admissions, an incidence comparable to that of pyloric stenosis and cystic fibrosis. If one excludes the cases caused by Neomullsoy ingestion, the major causes of metabolic alkalosis in childhood are pyloric stenosis (48%) and cystic fibrosis (40%). The large incidence of cystic fibrosis presenting with metabolic alkalosis has not been noted in previous series and cystic fibrosis is not usually included as a cause of metabolic alkalosis.<sup>4</sup> From the data in this series, infants three months

of age or older presenting with metabolic alkalosis should be evaluated for cystic fibrosis and should receive a sweat chloride as part of his evaluation.

## REFERENCES

1. Kassirer, J. P.: Serious acid-base disorders. *N. Engl. J. Med.* 1974; 291:773-776.
2. Seldin, D. W., and Rector, F. C.: The generation and maintenance of metabolic alkalosis. *Kid. Int.* 1972; 1:306-321.
3. Garella, S., Chazan, J. A., and Cohen, J. J.: Saline resistant metabolic alkalosis in chloride wasting nephropathy. *Ann. Int. Med.* 1970; 73:28-31.
4. Winters, R. W.: Acid-base disorders, in *The Body Fluids in Pediatrics*. Boston, Little, Brown and Co., 1973:58.
5. Burnett, C., et al: Studies in alkalosis: II electrolyte abnormalities in alkalosis resulting from pyloric obstruction. *J. Clin. Invest.* 1950; 29:175.
6. Beckerman, R. C., and Taussig, L. M.: Hypoelectrolytemia and metabolic alkalosis in infants with cystic fibrosis. *Pediatrics* 1979; 63:580-583.
7. Gottlieb, R.: Metabolic alkalosis in cystic fibrosis. *J. Pediatr.* 1971; 79:930-936.
8. Emrich, H. M., Stoll, E., Friolet, B., Colombo, J. P., Richterich, R., and Ross, E.: Sweat composition in relation to rate of sweating in patients with cystic fibrosis of the pancreas. *Pediatr. Res.* 1968; 2:464-478.
9. Garin, E. H., Geary, D., and Richard, G. A.: Soybean formula (Neo-Mull-Soy) metabolic alkalosis in infancy. *J. Pediatr.* 1979; 95:985-987.
10. Rapaport, R., Levine, L. S., Petrovic, M., Wilson, T., Draznin, M., Bejar, R. L., Johanson, A., and New, M. I.: The renin-aldosterone system in cystic fibrosis. *J. Pediatr.* 1981; 98:768-771.
11. Roy, S., and Arant, B. S.: Hypokalemic metabolic alkalosis in normotensive infants with elevated plasma renin activity and hyperaldosteronism: Role of dietary chloride deficiency. *Pediatr.* 1981; 67:423-429.
12. Rosenthal, A., Button, L. N., and Khaw, K. T.: Blood volume changes in patients with cystic fibrosis. *Pediatr.* 1977; 59:588-594.
13. McReynolds, E. W., Foy, S., and Ettelder, J. N.: Congenital chloride diarrhea. *Am. J. Dis. Child.* 1974; 127:566-570.



## EDITORIAL

## Malignancy

Alfred Kahn, Jr., M.D.

There are a number of interesting articles being published on the general topic of malignancy. One of the interesting problems in malignant disease is hypercalcemia. McDonnell, Dunstan, Evans, Carter, Hills, Wong, and McNeil have recently published an article entitled "Quantitative Bone Histology in the Hypercalcemia of Malignant Disease" (*Journal of Clinical Endocrinology and Metabolism*, Volume 55, page 1066, December, 1982). A point of great interest in their introduction was that they state that malignant disease is the most frequent reason for hypercalcemia in hospitalized patients. They further state these patients have a normal calcium

balance with the stool calcium being higher than the calcium intake; this suggests the calcium loss is from bone. Stated differently, bone destruction or resorption exceeds new bone formation in these cases. McDonnell et al felt that this calcium loss might be the result of some type of humoral factor rather than purely a mechanical destruction of bone by the tumor. If a humoral factor could be proved, it would indicate generalized bone resorption rather than localized mechanical factors. The authors decided to study this problem by doing quantitative bone histologic studies. They studied 23 patients who had malignant hypercalcemia. They had various types of tumors, 16



of which were solid tumors. The authors used three sets of controls; healthy hospital employees, hospital patients, and normocalcemic patients with malignant disease. The authors report that malignant cells were not seen in the bone marrow in the patients with solid tumor, but were present in other types of malignancy. At the end of their study they conclude that the results were consistent with a "humoral substance produced by malignant tissue causing generalized bone resorption in addition to bone dissolution around metastases". They saw an increase in bone resorbing surface by histochemical stain techniques. The bone forming surface was apparently not as great as the bone resorbing surface in many cases. McDonnell et al felt that the resorbing surface seemed to roughly correlate with urinary calcium loss but they did not feel that in some cases where the resorbing surface and forming surface were identical there was still calcium loss. They concluded that the bone loss had to be accounted for by mechanisms other than the histologic appearance of the tissue of bone. In the discussion portion of their article, they state that it was their ultimate conclusion that "local bone erosion adjacent to metastases is the most probable explanation for the discrepancy between the histological and biochemical assessment of bone loss." The mode of operation which they suggest would be for the tumor cell to secrete a humoral substance; this would act locally to cause bone resorption; it would then be taken into the blood stream and carried throughout the body to cause generalized bone resorption.

There is an interesting, speculative article on cancer published in the *Lancet* (#8309, page 1190, November 27, 1982, Volume 2 for 1982) by Arthur Berken entitled "Case for Adoptive Immunotherapy in Cancer". Dr. Berken states in his introduction that he feels that the immune control of cancer cells is different from that of bacteria. He goes on to state that bacteria multiply rapidly when they invade tissue. Bacteria have many antigenic sites on their outer surface. The combination of these two factors induce an antibody reaction in animals and thus a serious bacterial invasion may be prevented. He contrasts this with tumor cells which seem to grow slowly and take weeks or months to multiply. He suggests that tumor cells do not evoke much of an antibody response for a good while because of their slow growth and low density of antigen on the tumor

cell. He further writes that a so-called low tolerance response will occur when the antigen concentration is too low to provoke a normal immune response. He further feels that a generation of suppressor type T cells may develop.

Berken goes on to point out that in the immunity against cancer the principal line of defense consists of cellular immune mechanisms—this is in contrast to antibacterial defenses which might be both cellular and humoral. Non-specific cellular immunity has been attributed to microphages and certain killer lymphocytes, whereas specific anti-tumor activity the author attributes to microphages and killer lymphocytes "which bind Fc receptor bearing antibodies to produce antibodies dependent cellular cytotoxicity". Cytolytic T lymphocytes may have a very specific effect on the cell membranes of tumors. Cytolytic T lymphocytes will attack viral antigen—and, as a matter of fact, viral antigen may cause the formation of cytolytic T lymphocytes. Berken points out that some individuals do not have a good immunity to some viruses; he goes on to state that in some individuals there is a failure to form cytolytic T lymphocytes or because for genetic reasons due to the absence of the required major histocompatibility loci coded antigens. Berken then states that, reasoning by analogy, the same could be true in failure to have good resistance to cancer. The author says there is another type of possible specific cell mediated cytotoxicity which depends on the presence of Fc receptor bearing antibodies. He states that this receptor is associated with antibodies which bind to Fc sites. These antibodies can attach to mononuclear cells and, as Berken states, provide the vehicle for antibody dependent cellular cytotoxicity.

The author lists some of the reasons for inadequate immunity toward cancer and says that "specific active anti tumor immunization is likely to fail under any of the following circumstances: (1) When suppressor cells are generated because of low tumor-antigen concentrations. (2) When the required major histocompatibility loci gene products are absent, obviating the production of effective cytolytic T lymphocytes. (3) When the antibody-dependent cellular cytotoxicity is required to be effective in extravascular sites in solid tumors.

The author has a section of adoptive immunization against tumors and he says that three components are necessary; appropriate antigens,

selected antibodies, and effector cells which can be armed. Different tumor cells are apparently able to produce antigens different from the other cells of that individual; often they are related to what the author calls common human antigens such as blood group antigens. The author feels that it might be possible to acquire some of these common antigens which are not unique to the tumor, but which would effect the tumor in high concentration. Furthermore, monoclonal antibody techniques might specifically effect a given tumor. Berken feels that adoptive immunization has some advantages, one of which being it could be used during the course of chemotherapy against malignancy. One of his concerns is that chemotherapy does not clear off all the tumor cells and he puts forward the suggestion that so-called armed effector cells could be, so to speak, harvested before chemotherapy and then injected later to clear any viable tumor cells after chemotherapy is given. All in all, this is an extremely provocative article.

There are two extremely interesting articles on malignancy in the *Lancet* of November 6, 1982 (#8306, Volume II for 1982). The first is entitled "Targeting of Iodine-123-Labelled Tumor-Associated Monoclonal Antibodies to Ovarian, Breast, and Gastrointestinal Tumors" by Epenetos, Mather, Granowska, Nimmon, Hawkins, Britton, Shepherd, Taylor-Papadimitriou, Durbin, and Malpas. The authors' aim was to have specific antibodies against cancer. The authors used two monoclonal antibodies labeled with Iodine 123 to study tumors. They were able to

find both primary and metastatic tumors using external body scintigraphy. They stated the tumors became visible three minutes to 18 hours after the monoclonal antibody had been injected. The article contains some beautifully illustrated photos of tumors detected in this manner. Epenetos et al were able to localize the tumors without using any enhancement of visualization or subtraction techniques. The authors felt that there were no demonstrable side effects from performing this type of scintigraphy. They have speculated that this same technique may lead to a means of targeting tumors for therapeutic attack by monoclonal antibodies.

The other paper in the same issue of *Lancet* is by Epenetos, Canti, Taylor-Papadimitriou, Curling, and Modmer entitled "Use of Two Epithelium-Specific Monoclonal Antibodies for Diagnosis of Malignancy in Serous Effusions" (*Lancet*, Volume II for 1982, #8306, page 1004, November 6, 1982). In this study, the authors again used two monoclonal antibodies to try and detect cancer cells in serous effusion. They felt that their technique worked well. Again, there are several excellent illustrations accompanying their article. They stated that they were able to diagnose malignancy in 34 of 65 patients. In 27 patients there was no evidence of malignancy, and in four patients they found suspicious evidence of malignancy. When the studies using radioactive monoclonal antibodies were compared with morphologic studies, the results of the radioactive assay appeared to be highly accurate.



### "From Other Years"\*

*Journal of the Arkansas Medical Society*

Vol. 8 No. 5 May, 1897 p. 210

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THE TIME OF MEETING—Second Tuesday in May, 1897.

THE PLACE OF MEETING — Little Rock, Ark.

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## MEDICINE IN THE NEWS



### THE MONTH IN WASHINGTON

\* \* \* \*

#### SUPPORT MOUNTS FOR PRESIDENT'S INSURANCE TAX CAP

Since "controls on physicians and hospitals cannot by themselves halt health care inflation," the U. S. should "change the economic incentives facing all the key participants in the health care system" by adopting the Reagan Administration's proposed tax on employer-paid health insurance benefits above a certain ceiling, Robert Rubin, M.D., told a Senate panel in June.

Rubin, Assistant Secretary for Planning and Evaluation with the Department of Health and Human Services, testified before the Senate Finance Committee which is considering S. 640, a tax cap proposal introduced by Committee Chairman Robert Dole (R-KS) at the Administration's request. The measure would, as of January 1, 1984, tax as income to the employee any premium contributions by his employer in excess of \$175 a month per family or \$70 per month per individual.

Rubin reported that HHS estimates the proposal would generate \$2.1 billion in tax revenues in 1984 and \$27.4 billion over the next five years. The 30 million workers affected in the first year would have a tax increase of \$228.

The tax cap is favored by Dole, who has suggested that revenue from it might be used to finance a health insurance program for the unemployed, a tactic the Administration favors only if the cap is lowered to generate new revenues on top of those anticipated from S. 640.

Nevertheless, the tax cap does not appear to have an avid constituency in Congress and an informal poll of Finance Committee members is said to have turned up only a few who favor it. Though support was slightly stronger for a cap used to finance health insurance for the unemployed, a majority of Finance members opposed that approach.

Rubin said the cap is necessary because the "major threat to quality medical care in the U. S. is a continuation of the trend of inordinate inflation in health expenditures" and because employer payments into private health plans are projected to rise from \$50.5 billion in 1980 to \$178.4 billion in 1990, diverting employee compensation away from taxable wages.

He maintained that the tax cap would encourage innovative employer programs such as health promotion plans and preferred provider organizations as well as increased cost-sharing to encourage patients to shop for care. He said the tax cap would reduce current tax code inequities that favor high income employees.

The National Association of Governors and most health care providers, including the American Hospital Association, the Federation of American Hospitals, and the American Academy of Pediatrics, supported the tax cap.

William R. Felts, M.D., told the committee that the American Medical Association thinks "a cap would increase consumer cost-consciousness and thereby help to reduce the increases in health care costs."

Felts' testimony came just as the AMA's House of Delegates at its annual meeting in Chicago was

approving a revised set of consumer choice principles which includes support for a cap on the amount of the employer-paid health insurance premiums that are tax-free to the employee.

A Washington, D. C. internist, Felts, also said the AMA has two concerns with the Administration's tax cap proposal. First, he suggested, the annual increase in the ceiling should be indexed to medical care cost increases rather than to the general CPI. Second, the AMA would like to "urge employers, employees and third party payors to adjust plans by increasing patient cost-sharing and offering multiple plans with varying deductibles and levels of coinsurance rather than reducing the breadth of benefits."

One concern that has been raised by opponents of the cap is that it would discourage insurance for preventive care while continuing hospital coverage at the present levels.

American Dental Association President Burton Press told the committee a tax cap would "penalize prevention-oriented, cost-effective dental pre-payment plans." But, AAP President James E. Strain, M.D., said that health plans have always discriminated against preventive benefits, particularly those for children. He called for adoption of the tax cap, but urged that tax deductions be prohibited for employer insurance plans failing to provide preventive care for children.

Resistance to the cap came from employers, unions and insurers, and some of the opponents accused the provider supporters of pushing the tax cap as a means of staving off further controls on hospitals and physicians.

In general their objections to the cap are that the cap would: penalize older workers; be unfair to "hazardous, high-risk occupations"; be "double taxation" because workers would be taxed on high premiums necessitated by the federal government's cost shifting to private patients; not take geographic differences in the price of health care into account.

The same arguments were advanced by several committee members, with Sens. Robert Packwood (R-OR) and Lloyd Bentsen (D-TX) honing in on the impact of the cap on older workers and Sen. Bill Bradley (D-NJ) questioning its effect on high risk industries.

Packwood also said he doesn't believe the cap will generate the savings projected for it and that it could prompt demand for a national health insurance plan in the U. S.

Durenberger retorted that employer-based insurance already constitutes a national health plan but it only "covers 68 million" households and due to its high cost prevents extension of coverage to the remainder of the population.

Dole noted that the House and Senate would soon be voting on a budget resolution and predicted that Finance members may feel differently about the cap when they begin to wrestle with the resolution's mandate that the Finance Committee come up with \$73 billion in new revenues over the next three years.

### ORPHAN DRUG APPROVED

The Food and Drug Administration announced the approval of Lithostat, the second "orphan drug" approved since Congressional legislation gave manufacturers incentives to develop drugs for rare diseases.

Lithostat (aceto-hydroxamic acid) reduces the ammonia content in the urine of paraplegics, a leading cause of kidney damage and even death in these patients. Because this is a source of kidney damage unique to paraplegics, only 50,000 persons are expected to benefit from the drug.

In these patients, antibiotic-resistant bacteria cause a buildup of ammonia in the urine. The ammonia precipitates calcium and minerals, which form kidney stones. But because the patient may not feel the pain associated with kidney stones, they continue to develop undetected. Kidney failure, even death, may result.

Coincidentally, the only other orphan drug to receive recent FDA approval was also designed to prevent kidney damage: sodium cellulose phosphate treats kidney stones resulting from absorptive hypercalciuria, an excess of calcium in the urine caused by the over-absorption of calcium in food.

### FDA COMMISSIONER IMPLICATED IN DRUG TESTING

Department of Defense documents have revealed that Food and Drug Commissioner Arthur H. Hayes, Jr., M.D., acted as the principal investigator and responsible physician in experiments testing a "super-hallucinogen" agent called glycolate.

Hayes also was involved in tests of other chemical agents including atropine, scopolamine, and ditran at Edgewood Arsenal, Md. in 1966. These anticholinergic drugs are both mental and physical incapacitants, and atropine is a general antidote for chemical warfare agents.



The declassified 1976 report by the Army Inspector General exonerates Hayes and other Edgewood researchers of any medical improprieties, concluding that no volunteers suffered a fatality or serious injury from the research.

But the same report says that the recruitment and consent of soldiers for testing may have violated Army procedures. In its summary, the report states: "The volunteers were not fully informed as required prior to participation and the methods of procuring their services, in many cases, appeared not to have been in accordance with the intent of the Department of Army policies governing the use of volunteers in research."

At the time, the Army's rules on informed consent required that "there should be made known to the experimental subject the nature, duration, and purpose of the experiment; the method and means by which it is to be conducted; all inconveniences and hazards reasonably to be expected; and the effects upon his health or person which may possibly come from his participation in the experiment."

The Inspector General's report, however, shows that consent was relegated to a simple, all-purpose statement that was often signed by the volunteers before they arrived at Edgewood or on the day of their arrival.

#### FTC BLESSES PPO IN NEW JERSEY

In its first pronouncement on the subject, the Federal Trade Commission has given its tentative blessing to a proposed preferred provider organization (PPO) in New Jersey.

The advisory does not have the weight of law and is not binding on courts though courts do consider advisory opinions. It could be revoked at any time. In addition, PPOs have taken many forms and clearance for the New Jersey PPO is not applicable to other types of PPOs.

The advisory is significant, however, in that it represents the FTC's first step into the cloudy legal issues surrounding the PPO concept.

The Commission is studying requests for advisories for several other PPOs as well and FTC official Walter Winslow said that since these cover a "number of differently-structured" PPOs, the Commission hopes to issue further advisories that will "clarify" the legal position of PPOs. "We don't want uncertainty over the law to cause people to delay in setting up something that can be procompetitive," he added.

The advisory that was issued went to Health Care Management Associates (HCMA), a Moorestown, N. J. consulting firm that is developing a PPO known as the Cooperating Provider Program. It said the FTC does not believe HCMA's proposed PPO would violate antitrust law and added that the plan "is likely to be procompetitive."

HCMA sees itself as a brokering agent in the arrangement. It would contract with up to 15% of individual physicians, oral surgeons, podiatrists and psychologists in three counties to provide care to patients covered under the plans of insurers or companies that sign up with HCMA.

The providers in the PPO would have a choice between two methods of payment. They could elect to receive the lesser of their charges or a maximum HCMA-determined payment schedule. Or they could be paid their usual, customary and reasonable fee minus a percentage discount of up to 15%. The discount would be specified in the insurer's contract with HCMA.

In its advisory letter to HCMA, the FTC noted that "no actively practicing provider, hospital, or payer has any direct or indirect financial, controlling, or non-controlling interest in HCMA." It also carefully spelled out that the financial arrangements are to be between HCMA and each individual physician.

Those, according to FTC's Winslow, are two aspects of HCMA's plan that set it apart from many other PPOs. The latter is particularly significant because it distinguished HCMA from the Maricopa Foundation in Arizona, which the Supreme Court ruled had engaged in price fixing by agreeing jointly on the maximum fees its members would seek as payment for services to subscribers of foundation-approved insurance plans.

In that sense, Winslow observed, the HCMA advisory was "easy" compared to others before the commission because it did not raise the question of "what a group of independent, competing providers can do relating to PPO fees when it has not actually established or formed a PPO but has merely put together a provider component for the PPO."

That question could apply to the bulk of HMO's in operation or development to date. A PPO directory developed by the American Medical Care and Review Association lists 64 PPOs in 20 states and the District of Columbia, of which

48 are sponsored by physician groups and/or hospitals.

The degree of financial involvement of the sponsors in these PPOs is not known, however, and a number of groups including the American Medical Association are collecting further information in this area. The AMA's Department of Health Care Financing and Organization has identified about 80 PPO-type arrangements in operation or development across the country and is now trying to determine the financial structure of those PPOs.

In addition, the AMA is preparing technical assistance materials to help physicians evaluate PPOs and has established a clearinghouse to provide information on PPOs to state and county medical societies.

#### **RHODE ISLAND PPO PLAN ALSO ENDORSED**

The Federal Trade Commission also gave a Rhode Island Professional Standards Review Organization the go-ahead for its plan to review the medical necessity of care provided to private employers health benefits programs.

The PSRO has asked the FTC in January for an advisory opinion on its plan to conduct pre-admission and concurrent reviews of private patients, to recommend appropriate lengths of hospital stays and to conduct quality review studies. Its recommendations are not binding on the companies and no fee reviews would be conducted under the program.

In a letter to PSRO Executive Vice President Edward J. Lynch, the Commission said the plan does not appear to violate any antitrust laws and could, "in fact, promote competition, thereby providing substantial benefits to consumers" and give health care providers a "greater incentive" to "practice in a cost-conscious manner."

The advisory opinion warned, however, that the PSRO should work to assure that the program's purpose "remains legitimate and does not produce significant anticompetitive effects." For example, it added, "you should avoid any misuse of the program to discriminate against innovative competitors."

#### **"BABY DOE" SPRINGS BACK TO LIFE**

The Department of Health and Human Services has proposed a new version of the controversial "Baby Doe" rule requiring hospitals and clinics to post notices publicizing a 24-hour hotline to be used in cases of suspected neglect.

The procedure, rather than the substance of the rule, is changed. It still contains the requirement to post notices listing the hotline number. But instead of requiring the posting of the notice in delivery, maternity, and intensive care wards, it requires that the notice must be posted in nursing stations. The new rule will also allow a longer public comment period.

The rule's long preamble and appendix specify that federal law "does not require the imposition of futile therapies which merely temporarily prolong the process of dying of an infant born terminally ill." The rule also attempts to define the term "handicap" as disorders such as "mental retardation, blindness, paralysis, deafness, or lack of limbs."

"Any judgment that a person is not worthy of treatment due to such handicap is not . . . a medical judgment, even if made by doctors . . ." the rule says.

The original regulation was struck down in federal court. U. S. District Court Judge Gerhard A. Gesell ruled last May that the regulation was "arbitrarily and capricious." The rule was a "hasty and ill-considered" response to "one of the most difficult medical and ethical problems facing our society," he said.

Meanwhile, a new Gallup Poll shows that the public is evenly divided as to what steps it would take if faced with the birth of a seriously handicapped newborn.

Of 1540 interviewed adults, 40% said they would ask their doctor to keep the baby alive, 43% said they would request that the child be allowed to die, and 17% have no opinion.

Women, blacks, and married persons are the most likely to ask for their physician's help in keeping the baby alive. More women (43%) than men (37%), more blacks (59%) than whites (38%), and more married (41%) than single (34%) persons said that they would ask that the handicapped baby receive the surgical care necessary for survival.

#### **CONGRESS KILLS ABORTION AMENDMENT**

The Senate has overwhelmingly rejected an amendment by Sen. Orrin Hatch (R-UT) that declared "the right to abortion is not secured by this Constitution." The amendment fell short of the necessary two-thirds vote, with 49 Senators supporting and 50 Senators opposing the amendment.



The purpose of the amendment, according to supporter Thomas F. Eagleton (D-MO) was to "wipe out the legal status afforded to the abortion right by *Roe v. Wade* and return it to its earlier legal status, when abortion was a matter for each of the states to decide." The vote is said to have represented a serious setback for the New Right, which had placed abortion restriction on the top of its agenda of social issues.

The Senate vote is the second recent defeat for anti-abortionists. The Supreme Court earlier in June upheld the right to abortion, by ruling that second trimester hospitalization requirement placed an obstacle in the path of women seeking the procedure. In their overturn of an Akron, O., abortion ordinance, the justices also indirectly overturned 33 state and city laws.

The Supreme Court's reaffirmation of the constitutional right to abortion sent shock waves through state and city governments, as legislators scrambled to rewrite their restrictive abortion laws. But the long-term effect will probably be felt most strongly in the medical community, where observers predict that pregnancies will be terminated earlier, for less money, and at greater patient convenience than ever before.

The trend was already well underway: since the early 70s, the typical abortion patient has increasingly chosen a clinic over a hospital, and has arrived there during her first, rather than second, trimester of pregnancy.

The Supreme Court's decision, however, is expected to accelerate this general movement. A second trimester hospitalization requirement places "a significant obstacle in the path of women seeking abortion," wrote Justice Lewis F. Powell, Jr., in overturning an Akron, O., abortion ordinance. Because second trimester abortions cost more and are sometimes not performed in local hospitals, Akron's requirement could "force women to travel to find available facilities, resulting in both financial expense and additional health risk."

Of a law requiring recitation of anti-abortion material to a woman seeking an abortion, he wrote: "It remains primarily the responsibility of the physician to insure that appropriate information is conveyed to his patient." Of a 24-hour waiting period, he wrote: "If a woman, after appropriate counseling, is prepared to give her written informed consent and proceed with the abortion, a state may not delay."

Although many of the Akron-like provisions of 33 state laws (22 requiring second trimester hospitalization and 11 requiring pre-abortion waiting periods) were put on hold by federal judges until the high court ruled, fear of imminent restrictions kept clinics from expanding their services.

#### **BUDGET PLAN RECEIVES CONGRESSIONAL STAMP**

Dispelling rumors that Congress would never agree on a fiscal 1984 budget, Congress has approved an \$860 billion 1984 spending plan that shaves Medicare by about \$400 million next year and adds \$200 million to Medicaid for a children's health program.

President Reagan is opposed to the measure which includes more in tax increases and domestic spending and less in defense spending than he requested. It also sets up an \$8.5 billion contingency fund to be allocated for recession relief programs only if Congress authorizes the programs. Although the budget resolution does not require the President's signature, Reagan can veto the appropriations measures Congress enacted to put the budget into effect.

All told the budget includes about \$94.6 billion for health programs, with about \$60.6 billion of this going to Medicare and \$21.4 billion to Medicaid.

It calls for Medicare savings of \$400 million next year and \$1.7 billion over the next three. House members insisted on a caveat saying the cuts are not to be achieved by increasing patient coinsurance or reducing benefits, but are to come from "increased cost controls" on providers.

The budget makes no cuts in Medicaid and adds \$200 million in 1984 and \$950 million over the next three years in money for a Child Health Assurance Program.

It included \$350 million in 83 funds, \$2 billion for 1984, and \$1.65 billion for 1985 in the recession relief contingency fund for a health insurance plan for the unemployed. The money could only be spent if Congress goes ahead and authorizes a new program.

#### **INTERNISTS THAW TO PRESIDENT'S FREEZE**

Internists, who along with general practitioners see more Medicare patients than do any other physicians, say they are willing to go along with a Reagan Administration proposal for a one-year freeze in Medicare's allowable charge limits on physicians.

Acknowledging that its position is at odds with that of other medical organizations, the American Society of Internal Medicine told the Senate Finance Committee recently that "in view of the current economic climate, the need to reduce federal budget expenditures, and the importance of fairly and equitably spreading the burden of budget costs," its members support a "one-year temporary freeze" in the index governing increases in the charges Medicare allows.

ASIM President Monte Malach, M.D., a private practitioner in Brooklyn, N. Y. said internists do not, however, support a Senate Budget Committee recommendation to freeze the index only for those physicians that do not accept assignment of all Medicare claims. ASIM also continues to favor an eventual repeal of the fee index.

The ASIM testimony contrasts sharply with a statement the American Medical Association submitted earlier this spring to the Finance Committee's Health Subcommittee.

"We believe it is unfair to freeze the costs of one sector of the economy while not asking attorneys, architects and other professionals to accept a similar freeze and while allowing prices paid other suppliers to rise," the statement said. Furthermore, the freeze "could be a further disincentive to acceptance of Medicare assignments" and could lead to increased costs to beneficiaries.

The National Council of Senior Citizens and the American Association of Retired Persons have also testified against the freeze on Medicare fee levels. AARP and NCSC representatives told the Finance Committee that the freeze would merely shift costs from the government to beneficiaries.

#### **AHA LOOKS ANEW AT HEALTH PLANNING**

American Hospital Association delegates will be asked when they meet in August to take a new look at their position on health planning measures.

Since 1981, the AHA has been calling for repeal of federal health planning laws and the institution of voluntary local planning. Late in May, however, the AHA Board recommended revisions in that position to gain hospitals a seat at the bargaining table as the future of health planning is discussed in Congress. According to an AHA staff member, the new position is a "pragmatic" recognition of political realities. Recognizing that the chances of repeal are poor, the association would argue instead for changes to streamline the planning law.

The recommendation, which now goes to AHA's Regional Advisory Boards and then to the AHA House of Delegates, calls for a federal health planning role "limited to making grants directly to local communitywide planning organizations." It says "there should be no additional federal requirements related to functions, governance and staffing" of the organizations and that their participation in certificate-of-need (CON) reviews should be determined by the states. CON thresholds for review of capital expenditures should be set at \$5 million, it adds.

Meanwhile, efforts to amend and renew the health planning program are continuing as a group of interested organizations attempt to design a compromise measure that can garner support in the Senate.

The House of Representatives passed two planning measures last year and its Commerce Committee has cleared a bill sponsored by Rep. Henry Waxman that would extend the program until October 1, 1986.

Action was stymied in the Senate last year, however, when the Labor and Human Resources Committee failed to ever agree on a bill to take the floor.

The new compromise attempt is focused on gaining the endorsement of Sen. Orrin Hatch (R-UT), who chairs the Labor panel. It reportedly is loosely based on legislation the House approved last September and that Illinois Republican Edward Madigan had offered in the Commerce panel.

That bill relaxed certificate-of-need requirements in the current law more than Waxman's measure does and continued the program for only two years. Some of those involved in the compromise attempt say they believe that if the right changes are made, the Reagan Administration might curb its opposition to renewal of authority for health planning.

#### **DIOXIN POSITION DEFENDED BEFORE CONGRESS**

The American Medical Association reaffirmed its resolution to institute a public information campaign and update its 1981 report on dioxin in a June hearing of a House Science and Technology Subcommittee.

However, the AMA backed off of the extreme language used in clauses that precede the resolution on dioxin. The clauses that describe "hysterical malreporting" and "a witch hunt" of



dioxin do not constitute official AMA policy, AMA representative John R. Beljan, M.D., told the subcommittee. Beljan, head of the panel that compiled the AMA's 1981 dioxin report, said he was concerned that "there is a broad misunderstanding of the position of the AMA."

There is still not enough evidence to prove long-term health effects of dioxin on humans, other than chloracne, Beljan said. Yet, the AMA does not "pooh-pooh" dioxin, and believes there is "a potential health problem," he explained.

New literature on dioxin will be reviewed in August by the AMA Council on Scientific Affairs. These findings will be presented to the AMA Board of Trustees meeting in October, with consideration by the House of Delegates at its meeting in December.

#### **ALPHA FETOPROTEIN SCREENING KITS APPROVED**

The Food and Drug Administration announced plans to approve kits that screen for spina bifida, renewing an old controversy with ethical, emotional, and economic implications.

The alpha fetoprotein screening kit is expected to become available once its labeling and patient information brochure is also approved. The FDA will require that manufacturers submit quarterly reports of post-approval experience, and develop patient and physician information packages. In addition, the FDA will begin an educational program for physicians and patients.

But these modest requirements are a far cry from the FDA's 1980 position, when it planned to restrict the availability of the test to certain physicians, require that manufacturers monitor use of the materials, and make available specially trained counselors that could explain to women the implications of test results.

Risk of spina bifida cannot be pinpointed to a small, high-risk population; unlike other screening programs, the alpha fetaprotein screening kits are designed for use in every pregnant woman. The test is expensive, the total package may cost more than \$400 and must be performed within a limited number of weeks. Moreover, some persons believe that widespread testing for birth defects is the morally wrong thing to do, a few babies with spina bifida have only minor physical handicaps and normal intelligence.

Opinions are divided within the medical community. The American Medical Association and the American Academy of Family Physicians

opposed strict regulations, while the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics had supported them.

\* \* \* \*

#### **MINUTES OF THE COUNCIL OF THE ARKANSAS MEDICAL SOCIETY**

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, July 10, 1983, in the Camelot Inn, Little Rock. Present were Burge, Crow, Wilkins, J. Kolb, Douglas, Henry, Weber, Lawson, Osborne, Lytle, P. Bell, Hestir, Langston, Sanders, Warren, Armstrong, Clardy, Bracken, Jouett, Jones, Morgan, Logan, Pearson, Lilly, Phillips, Chudy, Wallick, Andrews, Verser, Kutait, Smith, Watson, P. Kolb, Milton Deneke, Robert Benafield, Stuart Fitzhugh, Martin Eisele, Mrs. Paul Cornell representing the Auxiliary, Ms. Nancy Kintzel representing the AMA, Mr. Joe Pistole of Blue Cross-Blue Shield, Mr. Mitchell, Mr. LaMastus, Miss Richmond and C. C. Long. Guests present for a portion of the meeting included Gilbert Buchanan, Mrs. Orvil Burks, Mr. Pat Sims, and Sergeant Bill Young.

The Council transacted business as follows:

1. Chairman Burge presented a memorial resolution honoring Elvin Shuffield, who was serving as secretary of the Society at the time of his death. The resolution was unanimously adopted by the Council and a moment of silence was observed in memory of Dr. Shuffield.
2. Upon motion of Wilkins, the Council voted to recommend to the House of Delegates that Dr. Shuffield be named an honorary past president of the Arkansas Medical Society.
3. Upon motion of Langston, the Council approved appointment of a committee to investigate establishment of an appropriate memorial to Dr. Shuffield and make recommendations for consideration of the Council.
4. Chairman Burge requested nominations for the office of secretary of the Society. Ray Jouett and James Weber were nominated. Dr. Weber was elected to the position by secret ballot.
5. The Council voted to reappoint Jean Gladden of Harrison to a four-year term on the Board of Directors of the Medical Education Foundation for Arkansas.
6. The Council voted to recommend to the Governor that Guy Farris be reappointed to the

- Long Term Care Facility Advisory Board for a three-year term.
7. Mr. Pistole of Blue Cross-Blue Shield discussed the experience rating for the Society's group plan and possible options for changing benefits to reduce the rate for participants. Upon motion of Lilly, the Council voted to poll the plan participants regarding plan options and results of the poll be reported to the Council for action. Upon the motion of Jones, the Council voted to request that the Insurance Committee investigate other avenues of health plan coverage for a Society group.
8. Martin Eisele, president of the Medical Education Foundation for Arkansas, discussed the tax-exempt status and financial standing of the Foundation. Upon motion of Wilkins, the Council gave approval to whatever action the Board of Directors of the Foundation felt necessary, within reason, with regard to the tax-exempt status of the Foundation. Chairman Burge requested that Dr. Eisele report back to the Council on action taken by the Board of Directors of MEFFA.
9. Gilbert Buchanan and Mr. Orvil Burks discussed the State Health Plan for the School Health Curriculum Project (Berkeley Model). Upon motion of Wilkins, the Council voted its support of the program.
10. Milton Deneke, chairman of the Public Relations Committee, discussed a proposed film on the problem of driving while intoxicated to be produced by the Arkansas State Police. Mr. Sims and Sergeant Young of the State Police discussed the project and urged the Society to become a sponsor. The Council voted to contribute \$7,860 toward production of the film, upon motion of Jones.
11. Chairman Burge presented the proposed job description and estimate of costs involved for adding to the full-time staff of the headquarters office for public relations activities. Dr. Long discussed the job description and indicated that the position was really for a full-time fieldman. Warren moved that the Council forthwith take steps to institute the program. Weber made a substitute motion to change the job title to "professional relations" rather than "public relations" and listed areas of work as (1) educating members, (2) establishing better grassroots relationship with the membership, (3) increasing political activity on a local basis, and (4) increasing the membership, with the thrust of the proposal being a professional relations position, but with the individual working in both areas. Both motions received unanimous approval of the Council.
12. James Weber, chairman of the Committee on Medical Legislation, presented proposed "Articles of Association of AMS State Legislative Committee." There was discussion by the Council and amendments to wording of Articles proposed:
  - (1) In Article 5 delete reference to citizenship.
  - (2) In Article 10, change to provide for removal by *majority* vote of the Council and deleting provision for removal by trustees.
  - (3) In Article 12, add provision for dissolution to be approved by the House of Delegates.In response to a question, the ex-officio member referred to in Article 8 was interpreted to mean "non-voting" member. Upon motion of Logan, the Council accepted the Articles with amendments proposed.
13. Dr. Long discussed proposals received regarding the feasibility study on the headquarters office. Upon motion of Lilly, the Council voted to request that the executive vice president continue to seek information from independent firms on the cost of such a feasibility study.
14. The Council reviewed the schedule for future meetings of the Arkansas Medical Society. Upon motion of Phillips, the Council voted to hold its 1987 meeting in Fayetteville.
15. Upon motion of Wilkins, the Council voted to participate as a co-sponsor for a proposed mid-south regional conference on socio-economic issues planned for Memphis in September 1984. The chairman was authorized to appoint two members to serve on the steering committee for the conference.
16. The chairman advised that he had received a suggestion regarding rescheduling of the September meeting of the Council. Upon motion of Hestir, the Council voted to hold its next meeting in Little Rock on September 18th.
17. The Council voted to schedule a meeting of



the Council and to tentatively plan the winter meeting for Sunday, October 30.

18. Kemal Kutait, chairman of the Pension Trustees, reported on the Pension Board's consideration of depositories for the funds of the pension trust. He asked for approval from the Council to make a commitment to Worthen Bank if the trustees could reach an agreement with the Bank for handling of the funds. Upon motion of Jouett, the Council voted to request that the Board of Trustees of the Pension Plan negotiate with the bank and report back to the Council before making any commitment.

19. Upon motion of Warren, the Council approved the following appointments by Chairman Burge for an ad hoc committee to study the issue of informed consent legislation:

Larry Lawson, Paragould, Chairman  
John Broadwater, Fort Smith  
Bill Trantum, Little Rock  
S. Killeen DesLauriers, Little Rock  
Pat Phillips, Fort Smith  
Robert H. Janes, Fort Smith  
James Weber, Jacksonville

20. The Council approved appointment of Susan Baker of Little Rock to the Drug Utilization Review Committee for the Medicaid Drug Program to replace Dr. Shuffield.

21. At the request of the sixth district councilors, the Council deferred until the next meeting action on appointment to the professional relations committee for the sixth district.

The meeting adjourned at 2:45 p.m.

APPROVED: John P. Burge, M.D.  
Chairman

#### **GROUP MEDICAL PLAN ANNUAL OPEN ENROLLMENT**

The annual open enrollment in the Arkansas Medical Society group medical plan underwritten by Arkansas Blue Cross and Blue Shield has been extended through the month of October. Applications received by October 31 will be made effective on the next possible effective date after receipt. The next open enrollment will be during August 1984 for a September 1984 effective date.

Membership is available to all physicians who are members of the Arkansas Medical Society. Members are billed individually to their home or business address by Blue Cross and Blue Shield.

There is a 12-month waiting period for pre-existing conditions on new memberships. Existing Blue Cross and Blue Shield memberships may be transferred with continuous coverage and time credit toward waiting periods.

Plan summary effective September 1983:

Benefits: \$500 deductible, Comprehensive Major Medical, Unlimited Lifetime Maximum Benefit.

Calendar year deductible: \$500, maximum of 2 per family per year.

Payment after deductible: 80% of Usual, Customary, and Reasonable charges.

Stop Loss: The first \$5,000 will be paid at 80%; for the rest of the calendar year thereafter, payment will increase to 100% except for limitations listed below:

Limitations: Psychiatric, drug, and alcoholism, 50% payment, maximum \$4,000 per year NOT eligible for stop loss provision. Ambulance Service, Maximum of \$300 per year. Speech Therapy, Maximum of \$500 per year. Nursing Home Care, Maximum of 30 days per year. Private Duty Nursing, Maximum of \$4,000 per year.

Supplemental Accident Benefit: \$500.

Dependent Students: Covered to age 23.

Rates: Individual Coverage, \$74.90. Family Coverage, \$163.86.

For additional information or enrollment application, contact the Medical Society office or the Blue Cross and Blue Shield District Office in Fort Smith at 452-5047.

#### **THE USE OF APPROVED DRUGS FOR NON-APPROVED USE**

Don Phillips, P.D., *Director*  
*Division of Pharmacy Services*  
*Arkansas Department of Health*

On August 15, 1972, the FDA published in the Federal Register certain proposed regulations to deal with the situation of unapproved usage of approved new drugs. The proposals generated some controversy, and, as of this date, have not been finalized. The proposed regulations would give the FDA eight possible options in dealing with the situation. The options ranged from *recalling the New Drug Application (NDA) of the involved drug to revising the package insert to add the unapproved use.*

In order to answer questions about the use of approved drugs for non-approved use, there needs to be an understanding of the terminology involved.

*Defining the terminology.* "Approved Drug" may be defined as: (1) a "new drug" for which a NDA (New Drug Application) has been approved by the FDA and is still in force, or (2) a drug in use prior to the effective date of the 1938 Food and Drug Act — hence, not subject to the NDA requirement as long as the drug is used in accordance with labeling and existing usage guidelines established in 1938.

"Non-approved Drug" may be defined as either (1) a drug banned from commerce because of its hazards or because it is ineffective, or (2) a chemical or substance not previously used in man for treatment of disease.

"Use" as used in reference to approved drug in our discussion here is to mean the prescribing or administering of the drug and to include the dosage, route of administration, therapeutic indications, precautions, warnings, and contraindications.

Therefore, to medically use an approved drug for an approved use is to lawfully prescribe or administer the drug and to do so within the limits of the dosage, administration directions, therapeutic indications, precautions, warnings, and contraindications as found in the most current FDA approved package insert or labeling thereof; *or*, as in the case of certain common drugs — in addition to the package insert and labeling — the usage described in accepted or standard medical drug compendiums or pharmacology references. Conversely, to use an approved drug for an unapproved use is to prescribe or administer the drug outside the limits of the package insert, labeling, and usage as described in the accepted or standard medical drug compendiums or pharmacology references.

Caution: Articles in medical journals may or may not be a reference source of "approved usage." Often such articles deal with an unapproved use by a physician who is experimenting with the drug having received an Investigational New Drug Application (INDA) approval by the FDA. Any physician wishing to do the same should apply for investigator status under the affected IND with the Federal Food and Drug Administration.

Although the federal law does not require the physician to file an IND plan before prescribing or administering an approved drug for unapproved uses, it is in the best interest of the physician and the patient that this be done. Cases

will have to be judged on their own merit. Use of the INDA and informed consent is an alternative that helps to protect everyone.

REFERENCE SOURCES:

1. (*Pharmacy Law Digest*, Harwal Publishing Co. Media, Pennsylvania, 1983.)
2. (CFR-21, FDA, 1982.)

**SEMINAR SPONSORED BY  
COMMITTEE ON MEDICINE AND RELIGION**

The Arkansas Medical Society Committee on Medicine and Religion is sponsoring a seminar on Religion and Ethics October 15. The seminar will be held in the Education II Building on the University of Arkansas for Medical Sciences Campus in Little Rock.

A program on "Religion and Ethics on Hospice" will feature David Smith, Ph.D., Department of Religious Studies at Indiana University.

There will be leaders for discussion on Pain and Symptom Management; Companionship; Support and Bereavement; Suicide and Euthanasia; Problems with "No Codes"; and Reimbursement and Economics.

Dr. Walter O'Neal of Little Rock is chairman of the committee. For further information, he may be contacted at 9601 Interstate 630, Little Rock 72205; phone 227-2672.

**AUXILIARY PROJECTS FOR AMA-ERF**

The Arkansas Medical Society Auxiliary is working on two projects to raise money for the AMA-ERF:

**Sharing Card**

IT'S ALWAYS NICE TO BE REMEMBERED!

The Sharing Card is an excellent way to remember your fellow physicians. The Sharing Card is a Christmas card that is sent to each Arkansas Medical Society member. It includes the list of all physicians that have contributed to AMA-ERF.

I would like to invite all physicians and their families to have their names included in this very special event.

Your entire donation of \$25 per family or \$50 per corporation is TAX DEDUCTIBLE. The deadline for donations is November 23, 1983, so avoid the rush and mail your check today. Mail to:

Laine Sims Teeter  
AMA-ERF State Chairman  
Post Office Box 525  
Russellville, Arkansas 72801



Remember, your donation aids physicians who will be taking care of us in the future.

### Win A 1984 280ZX Datsun

You could win this 1984 280ZX Datsun with all new styling, T-top, and leather interior.

Tickets are available from your local Arkansas Medical Society Auxiliary or Laine Sims Teeter, AMA-ERF State Chairman, Post Office Box 525, Russellville 72801; telephone 501-968-2941. The \$10 donation per ticket will be contributed to Arkansas Medical Education and Research. This donation is tax deductible, so do NOT delay, buy several tickets today!

Arkansas' goal is to raise \$30,000 for our Medical School. So please be generous with your dollars and take this opportunity to lend us a hand. Go to your checkbook and write your contribution today to AMA-ERF.

I know you will win, because you cannot lose by helping a student. Don't forget, you were a student once, too.

Drawing will be held December 5, 1983.

Deadline for purchasing tickets is Thanksgiving.

Car is from Hagan Motor Company, Inc., Russellville.

# keeping up

## Category 1 Continuing Medical Education Programs Available in Arkansas

### MECHANICAL VENTILATOR MANAGEMENT

Presented by Roger C. Bone, M.D., F.A.C.P., Chief of Pulmonary Division, UAMS, *October 18, 7:00 p.m.*, Education Building, Baxter General Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### PSYCHIATRY UPDATE:

#### STEP PARENTING WORKSHOP

Presented by W. Payton Kolb, M.D., and S. Otho Hestely, Ph.D., *October 14-16, 9:00 a.m.-12:00 noon*, Arlington Hotel, Hot Springs. Sponsored by UAMS. Six hours Category I credit. Registration fee \$75.

### MEDICINE AND RELIGION CONFERENCE

Presented by Fred O. Henker, M.D., UAMS, and David Smith, Ph.D., Department of Religious Studies, Indiana University, *October 15, 8:00 a.m.-5:00 p.m.*, UAMS Education II Building. Topics include: Pain and Symptom Management, Companionship, Support and Bereavement, Suicide

and Euthanasia, Problems with "No Codes", Reimbursement and Economics. Seven hours Category I credit. Registration fee \$5.

### SECOND ANNUAL EMERGENCY CARE SEMINAR

*October 14-15*, Arkansas Children's Hospital.

### RADIOLOGY: RETROPERITONEUM

Presented by E. J. Ferris, M.D., *October 29, 1:00 p.m. to 5:00 p.m.* and *October 30, 8:00 a.m. to 12:00 noon*, Excelsior Hotel. Sponsored by UAMS. Seven hours Category I credit. Registration fee \$80.

### EMERGENCY MEDICINE UPDATE

Presented by Marvin Leibovich, M.D., *November 17, 7:15 a.m. to 5:30 p.m.* and *November 18, 8:00 a.m. to 5:30 p.m.*, Shuffield Auditorium, Baptist Medical Center. Seventeen hours Category I credit. Fee: physicians \$150; nurses, paramedics and other health related personnel \$50.

### RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

#### EL DORADO — AHEC-SOUTH ARKANSAS

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

## KEEPING UP

*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.  
*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

### FAYETTEVILLE — AHEC-NW

*Medicine Teaching Conference*, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center.

### FAYETTEVILLE — VA MEDICAL CENTER

*Pathology Conference*, third Thursday, 3:00 p.m., Conference Room.  
*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.  
*Mortality Conference*, second Thursday, 3:00 p.m., Conference Room.  
*Peer Exchange*, October: "Endocrinology", Peter O. Kohler, M.D.  
November: "Cardiology", Joseph Franciosa, M.D.

### JONESBORO — AHEC-NORTHEAST

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.  
*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.  
*Monthly Perinatal Conference*, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Continuing Medical Lecture Series*, each Friday, 12:00 noon, #1 Stroud Hall, St. Bernard's Annex Building.  
*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Arkansas Methodist Hospital CME Conference*, last Friday, 7:00 a.m., AMH, Paragould.

### LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Burn Conference Room.  
*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Physicians' Conference Room.  
*Primary Care Seminar*, each Wednesday, 8:15 a.m., Physicians' Conference Room.  
*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Polly R. Thomas Dining Room.  
*Infectious Disease Conference*, second Wednesday, 12:00 noon, Physicians' Conference Room.  
*Problem Case Conference*, each Thursday, 12:00 noon, Physicians' Conference Room.

### LITTLE ROCK — BAPTIST MEDICAL CENTER

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.  
*Emergency Medicine Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.  
*Case of the Month*, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*General Internal Medicine Conference*, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*Renal Conference*, fifth or last Wednesday each month, 12:00 noon to 1:00 p.m., Conference Room #1. (When there are four Wednesdays in the month, conference will be on fourth Wednesday and there will only be one Case of the Month Conference.)  
*Morbidity and Mortality Conference*, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.  
*Surgery Conference*, second, third, fourth and fifth Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.  
*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.  
*Cardiology Conference*, fourth Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.  
*Cardiopulmonary Resuscitation Course*, fourth Thursday, 7:00 p.m. to 1:00 a.m., Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

### LITTLE ROCK — ST. VINCENT INFIRMARY

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.  
*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.  
*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.  
*Gynecology Conference*, second Tuesday, 5:30 p.m. to 6:30 p.m., Radiology Classroom S-1025.  
*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory.  
*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.  
*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.  
*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.  
*Cardiology Conference*, fourth Thursday, 12:00 noon to 1:00 p.m., Room E-155, Education Wing.

### LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

*Psychiatry Grand Rounds*, each Monday, 12:00 noon to 1:00 p.m., Child Study Center Auditorium.





## PERSONAL AND NEWS ITEMS

### TWO NEW PHYSICIANS WITH CLINIC

Dr. Alan L. Barnes, formerly of Shreveport, Louisiana, has opened an office for the practice of Internal Medicine in the Buffalo Island Medical Associates Building in Manila.

Dr. Robert W. Long, formerly of Illinois, has joined the Buffalo Island Medical Clinic in Caraway as a consultant to the hospital's laboratory.

### HOLT KROCK CLINIC ASSOCIATES

The Holt Krock Clinic in Fort Smith has announced the association of two new physicians. Dr. Robert A. Robertson has joined the Anesthesiology Department and Dr. D. Bart Sills is in Family Practice at Alma and Mountainburg.

### DR. WEBER OPENS OFFICE

Dr. Patrick L. Weber has opened The Family Clinic at 26th and Pine Streets in Arkadelphia.

### DR. BRACKEN ELECTED

Dr. Ronald Bracken is the 1983-84 president of the Hot Springs Rotary Club.

### DR. BOLLEN BEGINS PRACTICE

Dr. Ray Bollen, an Internist, has joined Dr. Bruce Burton at the Hot Spring County Memorial Hospital Professional Building in Malvern.

### DR. MURPHY SPEAKS

Dr. Ken Murphy of Malvern spoke to the Rotary Club on breast cancer.

### SPRINGDALE GAINS PHYSICIANS

Dr. Joel Carver, a native of Mena, has joined Drs. Charles Inlow and James A. S. Haisten at the Northwest Arkansas Cardiology Clinic.

Dr. George Aydelott has joined the Springdale Memorial Hospital staff for the practice of Nuclear Medicine.

### DR. McCRARY APPOINTED

Dr. Robert F. McCrary, Sr., of Hot Springs has been appointed to the Board of Trustees of St. Joseph's Regional Health Center.

### DRS. THOMAS AND HILL MOVE

Drs. Bill R. Thomas and Edward B. Hill have opened their new office in the Benton Medical and Professional Center located at North Main and McNeil Streets.

### DR. FRIGON LOCATES

Dr. Jacquelyn Sue Frigon, a Neurologist, has opened an office at 1726 Doctor's Drive in Pine Bluff.

### DR. BRUCE HONORED

Dr. Thomas A. Bruce of Little Rock received the "Outstanding Alumnus Award" at the 15th Annual Caduceus Club Alumni Weekend.

### DR. WILLIAMS IN PARAGOULD

Dr. Dwight Williams, a native of Paragould, has joined the Paragould Medical Centre for the practice of Family Medicine.

### DR. SALTZMAN SPEAKS

Dr. Ben Saltzman of Little Rock spoke to the Dallas County Health Advisory Committee on public health needs and education.

### DR. TITUS LOCATES

Dr. Janet L. Titus, a Family Physician, has opened an office in Winslow.

### DR. TURNER APPOINTED

Dr. William Turner of Fort Smith has been named medical director of the Cancer Treatment Center at Sparks Regional Medical Center.

### DR. GABEL LOCATES

Dr. Pamela Gabel, a Pediatrician, has joined the DeQueen Clinic.

### DR. BULL RETIRES

Dr. L. J. Bull of Plainview has retired from medical practice.

### DR. BROWN ELECTED

Dr. O. D. Brown has been elected to the Board of Directors of DeQueen General Hospital.

### DR. PIERCE LOCATES

Dr. Trent Pierce, a Family Physician, has begun practice in West Memphis.

### DR. MALONE OPENS CLINIC

Dr. G. E. Malone has opened his new clinic located at Highway 64 and Avenue Two N.E. in Atkins.

Dr. Jeff M. Audibert, formerly of Maine, has joined Dr. Malone.

### DR. BUSH LOCATES

Dr. Martha Bush has joined Drs. Harry Harmon, Barry Allen and Richard Knight at the Springdale Pediatric Clinic.

### DR. MEREDITH ELECTED CHIEF

Dr. James Meredith, Jr., of Forrest City has been elected chief of staff at the Baptist Memorial Hospital. Other officers are Drs. Sam McGuire as secretary, Charles L. Barker as chief

of Obstetrics, Donald Seibel as chief of Emergency Room, Harold N. Cogburn as chief of Medicine and Edward Hammons as chief of Surgery.

**DR. ELLIOTT NAMED FELLOW**

Dr. Robert E. Elliott of Searcy is to be installed as a Fellow of the American College of Radiology during its annual meeting in Denver on September 27.

**DR. DELAMORE AS JUDGE**

Dr. John Delamore of Fordyce served as a judge of the State Catfish Cooking Contest held at Jacksonport State Park recently.

**DR. REDDY LOCATES**

Dr. Prabhakara Reddy, an Oncologist, has begun practice in Hot Springs. His office is located in Suite 803 of the Central Towers Building.

**DR. LYONS**

Dr. Lewis Lyons is now practicing Family Med-

icine in the Buffalo Island Medical Associates Building in Leachville.

**DR. ALSTON**

Dr. Phillip R. Alston has joined Dr. Stephen Marks for the practice of Obstetrics and Gynecology at 2000 Fendley Drive in North Little Rock.

**DR. BALLETTI LOCATES**

Dr. Albert A. Balletti is now practicing Family Medicine in Hot Springs.

**DR. DICKSON SPEAKS**

Dr. Glenn Dickson of Jonesboro was a member of the faculty for a Sports Medicine seminar recently sponsored by St. Bernard's Regional Medical Center.

**DR. CUPP IN HOT SPRINGS**

Dr. Cecil W. Cupp, III, has joined the Hot Springs Radiology Services at 911 West Grand.



**OBITUARY**

**DR. THOMAS E. BURROW**

Dr. Burrow of Hot Springs died July 13, 1983. He was born March 3, 1920, in Little Rock.

Dr. Burrow received his pre-med education at the University of Arkansas and Hendrix College. He was graduated from the University of Arkansas College of Medicine in 1944. From 1943 to 1946, he was a member of the United States Naval Reserve.

Dr. Burrow practiced briefly in Searcy before moving to Carlisle in 1947 where he practiced until 1949. From 1949 to 1955, Dr. Burrow served with the United States Navy. He was a veteran of World War II and the Korean War.

He practiced in Little Rock for three years. During that time, Dr. Burrow also served as a clinical instructor of Urology at the College of Medicine and as a member of the medical staffs for St. Vincent Infirmary, Arkansas Baptist Hospital and Arkansas Children's Hospital. Dr. Burrow began practice in Hot Springs in 1958 and continued his practice there until his death.

Dr. Burrow is survived by his wife, Louise, two

sons, four daughters, and a brother, Dr. W. Hollis Burrow.

**DR. MERL T. CROW**

Dr. Crow of Warren died August 1, 1983. He was born May 29, 1912, in Ingalls.

He was a graduate of the University of Arkansas and received his medical degree from the University of Arkansas College of Medicine in 1938. Dr. Crow served his internship and residency at Shreveport Charity Hospital.

Dr. Crow was a veteran of World War II. He moved to Warren in 1945 and practiced there for forty years. Dr. Crow had served as a president of the Bradley County Medical Society, a member of the Board of Directors of the First State Bank of Warren, and a member of the Warren City Council.

He is survived by his wife, Sue, two sons and two daughters.

**DR. S. WRIGHT HAWKINS**

Dr. Hawkins died July 15, 1983. He was born November 13, 1913, in Fort Smith. He practiced in Fort Smith from 1946 until his retirement from practice in 1982.

Dr. Hawkins received his pre-med education from the Fort Smith Junior College and the University of Arkansas. He was graduated from the University of Arkansas College of Medicine in 1937. His internship and surgical training were



in Philadelphia, Pennsylvania, and at the Leahey Clinic in Boston. From 1937 to 1941, Dr. Hawkins practiced in Arlington, Pennsylvania. He was assistant chief of surgical services at the 315th Station Army Hospital in England during World War II. From 1945 to 1946, Dr. Hawkins practiced in Boston, Massachusetts.

Dr. Hawkins joined the staff of Cooper Clinic in Fort Smith in 1946. He was a member of the surgical staffs of St. Edward Mercy Medical Center and Sparks Regional Medical Center. He had served as chief of surgery at St. Edward, as president of the Sebastian County Medical Society and as a first vice president of the Arkansas Medical Society. He had served on the Board of Stewards of the First United Methodist Church, the Fort Smith Public School Board, the Board of Directors at Sparks and the Board of Advisors at St. Edward, and was a member of the Fort Smith Rotary Club.

Dr. Hawkins is survived by his wife, Jayne, one daughter and two sons.

#### DR. G. ALLEN ROBINSON

Dr. Robinson died July 17, 1983. He was born August 15, 1895, in Western Grove.

He had taught school in Newton and Boone Counties. Dr. Robinson received his pre-med education at Valparaiso University in Indiana and the University of Arkansas.

During World War I, he trained at Camp Pike, Arkansas, and treated soldiers at a Tennessee Army Camp.

Dr. Robinson was graduated from the Vanderbilt University Medical School at Nashville, Tennessee, in 1919, and was elected to the Omega Alpha Honor Medical Society. His internship and residency training were with the New York Post Graduate Medical School, specializing in uses of radium and x-ray treatment of cancer and allied diseases.

In 1925, he began private practice in New York City specializing in Radiation Therapy. He be-

came associated with St. Vincent's Hospital in New York City in 1929.

Dr. Robinson was a Navy Commander during World War II. He directed radiation therapy for sailors sent to San Diego with various forms of cancer. After the war, he returned to New York City and resumed his practice.

In 1949, Dr. Robinson purchased a farm in Arkansas and commuted to and from New York until 1952. After graduating from Rutgers University College of Agriculture in 1952, he moved to Arkansas. Dr. Robinson combined farming and the practice of medicine in Harrison. That same year, Dr. Robinson was honored by the citizens of Western Grove who named a bridge for him; the bridge had been built at the site of his birth.

Dr. Robinson had served as an Assistant Professor of Radiology at the University of Arkansas College of Medicine, as Director of the Northwest Arkansas Tumor Clinic and as Chief of Staff at the Boone County Hospital.

He had served for twenty-five years as a member of the board of governors of the local soil conservation group and was district president of the Arkansas Association of Soil and Water Conservationist Districts for 1961 and 1962.

Dr. Robinson was a life member of the Arkansas Medical Society, the American Medical Association and the New York Academy of Medicine. He was a member of the Fifty Year Club of the Arkansas Medical Society and had served as secretary and president of the Club. He was a Diplomate of the American Board of Radiology.

In 1967, he founded the Robiusion Farm Museum and Heritage Center which includes an extensive display of medical and dental equipment. Some of the equipment was used in the days of the covered wagon.

Dr. Robinson was a member of the Arkansas Museum Association, the Masonic Lodge and Rotary International.

He is survived by his wife, Loretta.





## NEW MEMBERS

### **DR. ROBERT W. KLEINHENZ**

Dr. Kleinhenz has joined the Garland County Medical Society. He was born in Louisville, Kentucky.

He was graduated from Georgetown College, Kentucky, in 1970. Dr. Kleinhenz received his medical degree from the University of Louisville School of Medicine in 1974. His internship was with the University of Alabama Affiliated Hospitals in Birmingham; his residency training was with the University of Louisville Affiliated Hospitals. Dr. Kleinhenz was the recipient of the Otto E. Aufranc Fellowships at New England Baptist Hospital and Tufts University School of Medicine in Boston, Massachusetts. While in Boston, he was also a clinical instructor at Tufts.

Dr. Kleinhenz was in private practice in Elizabethtown, Kentucky, from 1980 to 1982.

He specializes in Orthopaedic Surgery. His office is located in the Arbor Street Clinic at 133 Arbor Street, Hot Springs.

### **DR. DENNIS W. LUTER**

Dr. Luter, a new member of the Independence County Medical Society, was born in Poplar Bluff, Missouri.

Dr. Luter received his pre-med education at Arkansas State University. He is a 1977 graduate of the University of Arkansas College of Medicine. After serving an Integrated Medical Residency with the University of Hawaii School of Public Health, he returned to Arkansas for Orthopaedic Surgery training at the University Hospital.

Dr. Luter began practicing Orthopaedic Surgery in Batesville in 1982. His office is in the Medical Park Office Building at 501 Virginia Drive.

### **DR. A. DALE BARTON**

Dr. Barton is a new member of the Pope County Medical Society. He is a native of Russellville.

Dr. Barton received a Bachelor of Science degree in Chemistry in 1976 from Arkansas Tech

University. He is a 1980 graduate of the University of Arkansas College of Medicine. Dr. Barton served his internship and Family and Community Medicine residency with the University.

Dr. Barton specializes in Family Medicine. He has joined the Millard Henry Clinic of Atkins.

\* \* \* \*

The Pulaski County Medical Society has five new members:

### **DR. BARRE F. FINAN**

Dr. Finan was born in Little Rock. He was granted a Bachelor of Science degree from the Arkansas State University in Jonesboro in 1974. He was graduated from the University of Arkansas College of Medicine in 1978.

He served his flexible internship and Urology residency with the University Medical Center.

Dr. Finan specializes in Urology at 9600 Kanis, Suite 200, in Little Rock.

### **DR. JAY D. HOLLAND**

A native of Little Rock, Dr. Holland received his Bachelor of Science degree in 1975 from Arkansas State University in Jonesboro. He was graduated from the University of Arkansas College of Medicine in 1980.

Dr. Holland received his Family Practice training with the Area Health Education Center in Pine Bluff.

He specializes in Family Practice. Dr. Holland has joined the Family Clinic at 4202 South University in Little Rock.

### **DR. J. ZACHARY MASON**

Dr. Mason received his pre-med education at the University of Arkansas in Fayetteville. He is a 1977 graduate of the University of Arkansas College of Medicine. His internship and Neurosurgery residency were with the University Medical Center.

Dr. Mason specializes in Neurological Surgery. He is associated with Neurological Surgery Associates at 750 Medical Towers Building in Little Rock.

### **DR. RICHARD E. McCARTHY**

Dr. McCarthy was born in New York. In 1970, he was granted a Bachelor of Science degree in Psychology from Fordham University in Bronx, New York. He is a 1974 graduate of State University of New York Downstate Medical Center College of Medicine in Brooklyn.

Dr. McCarthy was an intern at Boston City Hospital in Massachusetts. He served a year as a Surgical Junior Resident at New England Med-



## NEW MEMBERS

ical Center and Tufts University Medical School in Boston, Massachusetts.

From July to December 1976, Dr. McCarthy was in General Medical Practice with the affiliated hospitals of Winchester Hospital and Martha's Vineyard Hospital in Massachusetts.

He was an Orthopaedic resident at Harvard Medical School in Boston from 1977 to 1979. From July to December 1979, Dr. McCarthy was an Orthopaedic Registrar at Northwick Park Hospital in Harrow, London, England.

Dr. McCarthy was a clinical assistant of Orthopaedic Surgery for six months at Children's Hospital Medical Center in Boston.

Since 1981, Dr. McCarthy has held the position of Assistant Professor with the Departments of Orthopaedic Surgery and Pediatrics at the University of Arkansas College of Medicine and Arkansas Children's Hospital. His mailing address is 804 Wolfe, Little Rock 72201.

### **DR. JOHN R. THOMPSON**

Dr. Thompson, a native of Little Rock, received his Bachelor of Arts degree from the University of Arkansas at Fayetteville in 1976. He is a 1980 graduate of the University of Arkansas College of Medicine.

His flexible internship and Medicine residency were with the University.

Dr. Thompson specializes in General Medicine. His office is at 11215 Hermitage Road in Little Rock.

\* \* \* \*

### **DR. J. GREGORY BOOKER**

Dr. Booker is a new member of the Union County Medical Society. He was born in Shreveport, Louisiana.

Dr. Booker was granted a Bachelor of Science degree from the Northwestern State University at Natchitoches, Louisiana, in 1975. He is a 1979 graduate of the Louisiana State University School of Medicine in Shreveport. His internship and residency were with the LSU Medical Center.

Dr. Booker is a Junior Fellow of the American College of Obstetrics and Gynecology.

Dr. Booker specializes in Obstetrics and Gynecology. His office is located at 704 West Grove in El Dorado.

### **DR. JOHN B. RATCLIFF**

Dr. Ratcliff, a native of El Dorado, has also joined the Union County Medical Society.

He received a Bachelor of Science degree in 1975 from Louisiana Tech University. Dr. Ratcliff is a 1979 graduate of the Louisiana State University Medical Center at Shreveport. His internship and residency were with the LSU Affiliated Hospitals.

Dr. Ratcliff is a Junior Fellow of the American College of Obstetricians and Gynecologists.

He specializes in Obstetrics-Gynecology at 704 West Grove in El Dorado.

### **DR. JAMES M. MERRITT**

Dr. Merritt, a new member of the Washington County Medical Society, was born in Pine Bluff.

He was granted a Bachelor of Science degree from Arkansas State University in 1967. Dr. Merritt was graduated from the University of Arkansas College of Medicine in 1971. After an internship with the Pensacola Educational Program, Florida, he served his residency at the Oakland Naval Regional Medical Center, California.

Dr. Merritt served for seven years in the United States Navy. He served as Chief of Medicine and Drug Addiction and Alcohol Abuse Officer at Port Huenema Naval Hospital. Dr. Merritt moved to Springdale in 1978.

Dr. Merritt specializes in Internal Medicine and Alcohol and Drug Abuse. He has an office at 4253 Crossover Road in Fayetteville and another at Charter Vista Hospital in Springdale.

### **Intern Member**

### **DR. PAMELA K. P. KULBACK**

Dr. Kulback is a Medicine intern at the University of Arkansas Hospital. She is a 1982 graduate of the University of Alabama School of Medicine in Birmingham.



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## Ubiquitous Fungus-Deceptive Presentation

Rhys A. Williams, M.D., Joe D. Bennett, M.D., Sue Chambers, M. D., Hubert Peterson, M.D.\*

Darling in 1906 first described clinical infection with *Histoplasma capsulatum*. Since that time the protean face of this parasitic agent has been appreciated. The following presentation is unique in our experience.

A thirteen-year-old Caucasian female (BCH #-108305) presented herself to the emergency physician at the Boone County Hospital, Harrison, Arkansas, in the early morning hours the 16th of June 1982, complaining of the sudden onset of pleuritic pain located in the lower left mid lateral chest. Physical examination was not remarkable except for chest wall splinting on the left. Chest radiography demonstrated a cavitating left lower lobe infiltrate.

Hospitalization was accomplished with tomographic confirmation of two cavitating left lower lobe lesions. A fungus ball was not demonstrated but mycotic infection probably aspergillosis was considered most likely.

The initial PA and left lateral chest x-rays showed a large, sharply demarcated, 4.0 cm. diameter nodule in the lateral aspect of the left lower lobe. Within this nodule are several, approximately 1.0 cm. diameter, round or oval-shaped lucencies. A smaller, approximately 3.0 cm. diameter nodule, which is sharply demarcated, and also containing similar lucencies, is less well seen projected posterior to the left side of the heart also in the left lower lobe. The lateral view shows that these two nodules are superim-

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posed. Subsequently, other x-rays, including obliquities and tomograms, confirm the presence of these two nodules in the left lower lobe and showed essentially what has been described. No other abnormalities were noted.

The differential diagnosis based on x-rays and available history included pulmonary fungus infection. Aspergillosis was considered the best possibility. Histoplasmosis and blastomycosis, as well as tuberculosis, were also considered. Primary or metastatic pulmonary neoplasm were entertained as diagnoses only very lightly because of the young age of the patient and absence of other symptomatology.

Pediatric and laboratory consultation were obtained. Skin tests for histoplasmosis and tuberculosis were non reactive. Complete blood count, urinalysis, serum electrophoresis and fungal serology studies were all normal. Bronchoscopy examination 11 June 1982 was normal. Bacterial and fungal studies of swab and washing were normal.

Surgical removal of the affected lobe was recommended and after preoperative treatment with Amphotericin B was accomplished. The left lower lobe was resected 18 June 1982.

### Pathology Description

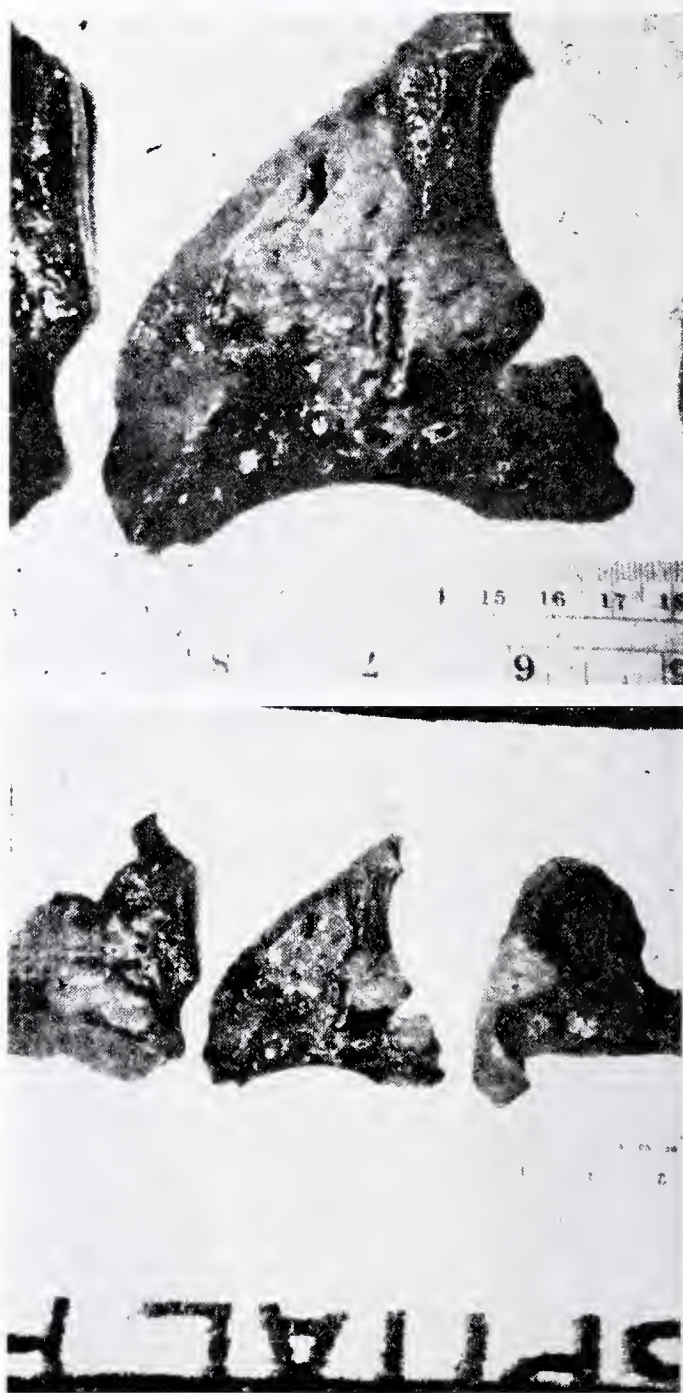
The specimen consists of a left lower pulmonary lobe which measures 10 x 10 x 8 cm., and weighs 240 grams. The pleura is generally smooth and transparent. Irregular subpleural nodularity is seen over the lateral and diaphragmatic surfaces. These areas have a firm rubbery consistency and measure up to 5 cm. in maximum dimension. Significant pleural thickening or retraction cannot be described. Sectioning reveals approximately half of the parenchyma to be involved with a series of discrete firm rubbery pink-gray nodules. The larger of these located in a subpleural position measuring 5 cm. in diameter and shows an area of central cystic liquefaction. The lesions extend into peribronchial and peribronchiolar areas though definite involvement of these structures cannot be appreciated on a gross basis.

Microscopic examination of the lung show confluent granulomas composed of numerous multi-nucleated giant cells and epithelioid cells, surrounding areas of necrosis, with multiple foci showing degenerating acute inflammatory cells and eosinophilic homogenous debris. There are

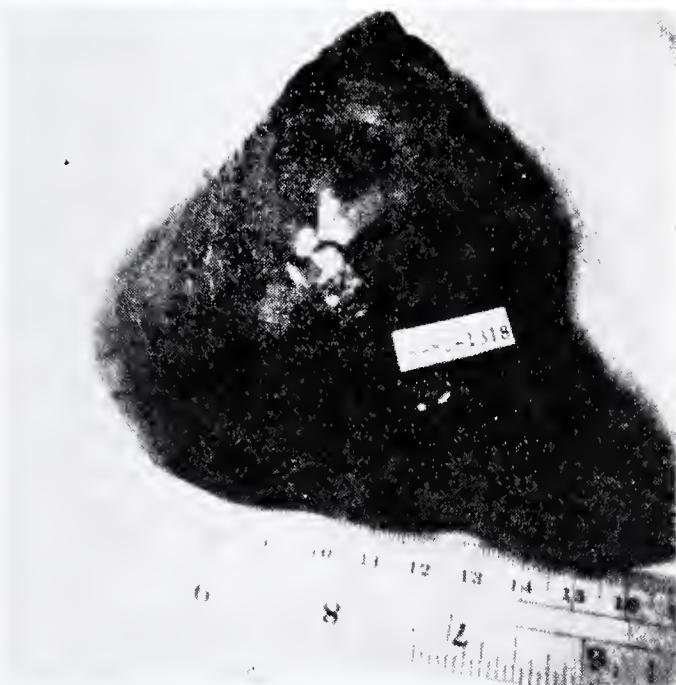
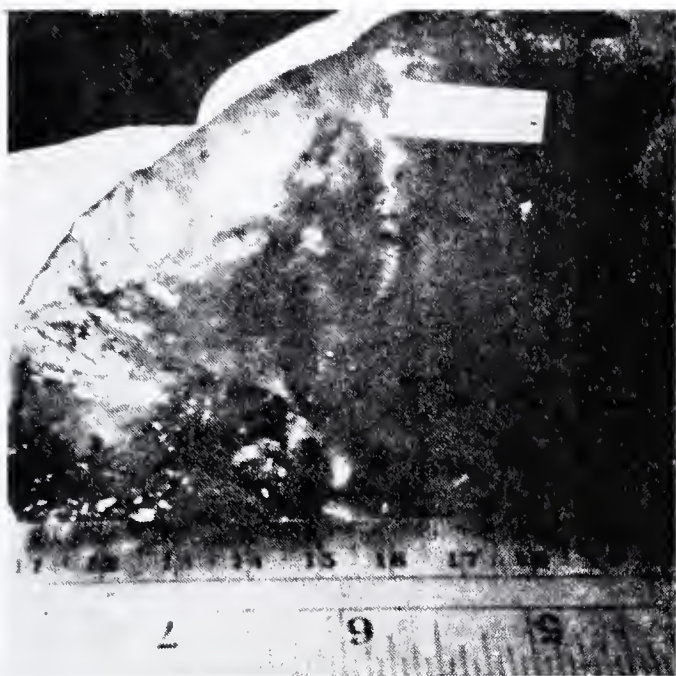
numerous plasma cells and lymphocytes in the infiltrate, particularly in the periphery, with minimal acute inflammation inside the bronchial tree. Numerous fungal forms are seen consisting of shrunken eosinophilic cytoplasm surrounded by a thin cell wall, which stains intensely positive on silver methenamine, as well as with PAS. Some of the yeasts are weakly positive with mucicarmine, but the majority are negative. No acid fast organisms are seen nor any bacterial colonies defined with appropriate stains. There is no evidence of neoplasia.

### Diagnosis

Lung, left lower lobectomy: Chronic cavity histoplasmosis.







Postoperative convalescence was uneventful with the patient being discharged for outpatient followup on 20 June 1982. X-ray at last office followup.

Histoplasmosis is not an unusual pulmonary infection in young teenagers in Arkansas. According to Kendeg's textbook on pulmonary disorders

approximately 45% of all Arkansans have positive skin tests or serologies to that organism, however, because of the peculiar presentation in this youngster histoplasmosis was not one of our primary considerations. It is well known that this organism can mimic many diseases, but the pulmonary infiltrate usually either takes the form of a granuloma with lymph node involvement or a miliary form resembling primary atypical pneumonia. Because of the cavitation we were more concerned about tuberculosis or one of the other fungal diseases, specifically, *Aspergillus*. Since the child really had no constitutional symptoms we did not look for the organism in bone marrow or other areas. She had no enlargement of liver or spleen. After all the diagnostic studies were completed to rule out tuberculosis and the serology and skin test for histoplasmosis were negative we felt that the proper course with this child whom we considered to have *Aspergillus* until proven otherwise was to resect the cavitory lesions therefore providing both a diagnostic and a therapeutic removal of the same.

Pretreatment with Amphotericin B was considered necessary because we were almost sure that the diagnosis would fall in the fungal area and we wished to prevent systemic spread of the organism. How this child obtained an inoculum of histoplasma large enough to cause a cavitory lesion is still a mystery. There is no history of cleaning chicken houses, etc. Other than her known allergic disease which to this point has been mostly sinusitis and an occasional episode of bronchitis we know of no immune deficits.

### Conclusion

A diagnostic pulmonary problem is present that was resolved expeditiously and demonstrated one of the varied faces of "histo."

### REFERENCES

- Thoracic and Cardiovascular Surgery. Lindskog, Leibow, and Glenn, Copyright 1962. Pages 334-337.
- Pulmonary Disorders, Volume I. Kendeg, Edwin L. Copyright 1972. Pages 597-599, 608-621.



# ROLE OF RADIATION THERAPY IN LUNG CANCER

## Review of Literature

Pramod Prabhu, M.D.\*

Lung cancer is the most common cause of death from malignancy in the United States. According to American Cancer Society estimates, this year 129,000 new cases will occur and 111,000 will die of lung cancer.

Although surgery is the treatment of choice in non-oat cell operable cases,<sup>12</sup> radiation therapy has an important role, either as a adjuvant or definitive treatment. Besides, it is a powerful tool in the palliation of metastatic disease. Chemotherapy is still of no proven benefit in non-oat cell lung cancer.

### Adjuvant Radiation Therapy

Pre-operative Radiation Therapy. Routine pre-operative radiation has not increased the survival rates although the resectability rate was increased and mediastinal lymph node metastasis was decreased.<sup>2,3,4</sup>

In studies where patients received 5000-6000 rads pre-operatively had severe complications and a significant number of patients (30%) died post-operatively mostly from bronchopleural fistula.<sup>4</sup>

In marginally resectable lung cancer, pre-operative radiation 3000 to 4000 rads has increased the resectability rate and survival in a highly selected group of patients with aggressive surgery (Sherman, et al<sup>1</sup>).

Superior Sulcus Tumors. These tumors are frequently low grade and often produce characteristic symptoms. Pre-operative radiation therapy has clearly shown superior five-year survival to either modality alone and has increased the resectability rate.<sup>5,6,7,8</sup> The usual dose is 3000 rads in 10 treatments given to the lung apex, upper mediastinum, ipsilateral hilum and lower cervical spine. Surgery is done 3-6 weeks later.

Paulson has reported 35% survival at 4 years. It must be stressed that the surgical procedure performed by Paulson was aggressive and included en block removal of the first 3 ribs, transverse process, portions of upper thoracic vertebrae, intercostal nerves and lower trunk of brachial plexus. Hilaris, et al, have reported similar results.<sup>8</sup>

Post-operative Radiation Therapy. Green, et al,<sup>13</sup> and Kirsh, et al,<sup>9,10</sup> have reported improved survival among patients with hilar and mediastinal lymph node metastasis, especially with squamous histology. Kirsh obtained 27% 5-year survival in this group of patients versus 0% with no post-operative radiation. The recommended dose of radiation is 5000 rads given at a rate of 200r/day.

### Radiation as Primary Therapy

Radiation therapy is considered an alternative treatment to surgery for patients who either refused surgery or are medically inoperable. Smart<sup>15</sup> and Hilton<sup>14</sup> reported over 20% 5-year survival after radical radiation therapy for otherwise operable lung cancer.

Radiation therapy is the treatment of choice for unresectable limited disease non-oat cell lung carcinoma. In the randomized study by Veterans Administration<sup>26</sup> there was a significant improvement in survival with radiotherapy when compared to the placebo treated control group.

Perez, et al,<sup>16</sup> reviewed recently the role of radiation therapy in unresectable non-oat cell carcinoma of the lung (RTOG). The overall 2-year survival was 19% in patients treated with 5000-6000 rads compared to 11% for the 4000 rad group. The intrathoracic recurrence rate was 52% with 4000 rad and 30% with 6000 rad. They conclude that there is an imperative need to deliver optimal doses of irradiation to adequate tumor volumes.

Should asymptomatic patients with inoperable bronchogenic carcinoma receive immediate radiotherapy? Yes. Several studies have shown no benefit with radiation therapy in inoperable lung cancer.<sup>18,19</sup> However, many of these trials used inadequate doses of radiation therapy and orthovoltage radiation.

With radiation treatment in adequate doses and with supervoltage therapy there is a definite percentage of long term survivors.<sup>16,21,22</sup> These patients should receive immediate radiotherapy since patients may develop sequale like superior vena cava syndrome collapse of lung or obstructive pneumonia. All of these present potentially

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life threatening problems to the patient, particularly those with poor pulmonary function. Patients with obstructive pneumonia will need larger field radiation than would have been used routinely, with increased complications.

**Small Cell Lung Cancer.** While aggressive combination chemotherapy has increased the survival rates in this disease the value of radiation to chest in prolonging survival is controversial. In limited stage disease, the complete response rate is higher in the combined modality arm and there is a trend toward increased disease free and overall survival in the combined modality group.<sup>23,20</sup> Elective whole brain radiation has reduced the frequency of brain metastasis from 22% to 2% in small cell lung cancer.

Radiation therapy can cause complications like radiation pneumonitis, and radiation myelitis. These can be avoided by careful treatment, planning and fractionation.

**Palliative Treatment.** Radiation therapy has an important role in the palliation of superior vena cava syndrome, hemoptysis, obstructive pneumonia, and collapse of lung due to tumor. It is quite useful for bone pain and liver pain due to metastasis. Patients with brain metastasis should receive whole brain radiation therapy.

#### REFERENCES

1. Sherman, D. M., et al. An aggressive approach to marginally resectable lung cancer. *Cancer*, May 1978, Vol. 41, pp. 2040-2045.
2. Pre-operative radiation of cancer of the lung. Final report of a therapeutic trial. A collaborative study. *Cancer* 36:914, 1975.
3. Roswit, B., et al. Pre-operative radiation therapy for carcinoma of lung. *Frontiers of Radiation Therapy and Oncology*. Munich S., Karger, 1970, Vol. 5, pp. 163-176.
4. Bloedorn, F. G., et al. Pre-operative irradiation in bronchogenic carcinoma. *Am. J. Roentgenol Radium Ther. Nucl. Med.* 92:77, 1964.
5. Paulson, D. L., et al. Combined pre-operative radiation and resection for bronchogenic carcinoma. *J. Thorac Cardiovascular Surgery* 44:281, 1962.
6. Paulson, D. L. Treatment of superior sulcus tumors. *Cancer Therapy by Integrated Radiation and Operation*, 1968, pp. 74-82.
7. Paulson, D. L. The survival rate of superior sulcus tumors treated by pre-surgical irradiation. *JAMA* 196:342, 1966.
8. Hilaris, B. S., et al. The value of pre-operative radiation therapy in apical lung cancer. *Surg. Clin. North Am.* 51:831, 1971.
9. Kirsh, M., et al. Major pulmonary resection for bronchogenic carcinoma in the elderly. *The Annals of Thoracic Surgery*, Vol. 22, No. 1, Oct. 1976.
10. Kirsh, M., et al. Carcinoma of the lung results of treatment over ten years. *The Annals of Thoracic Surgery*, Vol. 21, No. 5, May 1976.
11. Phillips, T. L., et al. Should asymptomatic patients with inoperable bronchogenic carcinoma receive immediate radiotherapy? Yes. *American Review of Respiratory Disease*, Vol. 117:405, 1978.
12. Mountain, C. Assessment of role of surgery for control of lung cancer. *The Annals of Thoracic Surgery*, Vol. 24, No. 4, Oct. 1977.
13. Green, N., et al. *Radiology* 116:405, 1975. Post-resection irradiation for primary lung cancer.
14. Hilton, G., *Thorax* 15:17-18, 1960.
15. Smart, J., *JAMA* 1034-1035, 1966.
16. Perez, C. A., et al. Report RTOG Group. *Cancer* 50: 1091-1099, 1982.
17. Abramson and Cavanaugh. Short course radiation therapy in carcinoma of the lung. *Radiology* 96:627-630, Sept. 1970.
18. Brashear, R. E. Should asymptomatic patients with inoperable bronchogenic carcinoma receive immediate radiotherapy? No. *Am. Rev. Resp. Dis.* 117:111, 1978.
19. Durant, K. R., et al. Comparison of treatment policies in operable carcinoma. *Lancet* 1:715, 1971.
20. White, J. E., et al. The influence of radiation therapy quality control on survival response and sites of relapse in oat cell carcinoma of the lung. *Cancer* 50: 1084-1090, 1982.
21. Guttman, R. J. Radical supervoltage therapy in operable carcinoma of the lung. Deely, T. J. (ed.): *Carcinoma of the bronchus. Modern Radiotherapy*, p. 193, New York, Appleton Century-Crofts, 1971.
22. Caldwell, W. L., and Bagshaw, M. A. Indications for and results of irradiation of carcinoma of the lung. *Cancer* 22:999-1004, 1968.
23. Cohen, M. H., Lichter, A. S., Bunn, P. A., et al. Chemotherapy radiation therapy versus chemotherapy in limited small cell lung cancer. *Proc. AACR-Asco.* 21: 418, 1980.
24. *Seminars in Oncology* 5:233-235, 1978.
25. Livingston, R. B., et al. Small cell carcinoma of the lung, combined chemotherapy and radiation. *Ann. Intern. Med.* 88:194-199, 1978.
26. Roswit, B., et al. The survival of patients with inoperable lung cancer, a large scale randomized study of radiation therapy vs. placebo. *Radiology* 90:688, 1968.





## ELECTROCARDIOGRAM

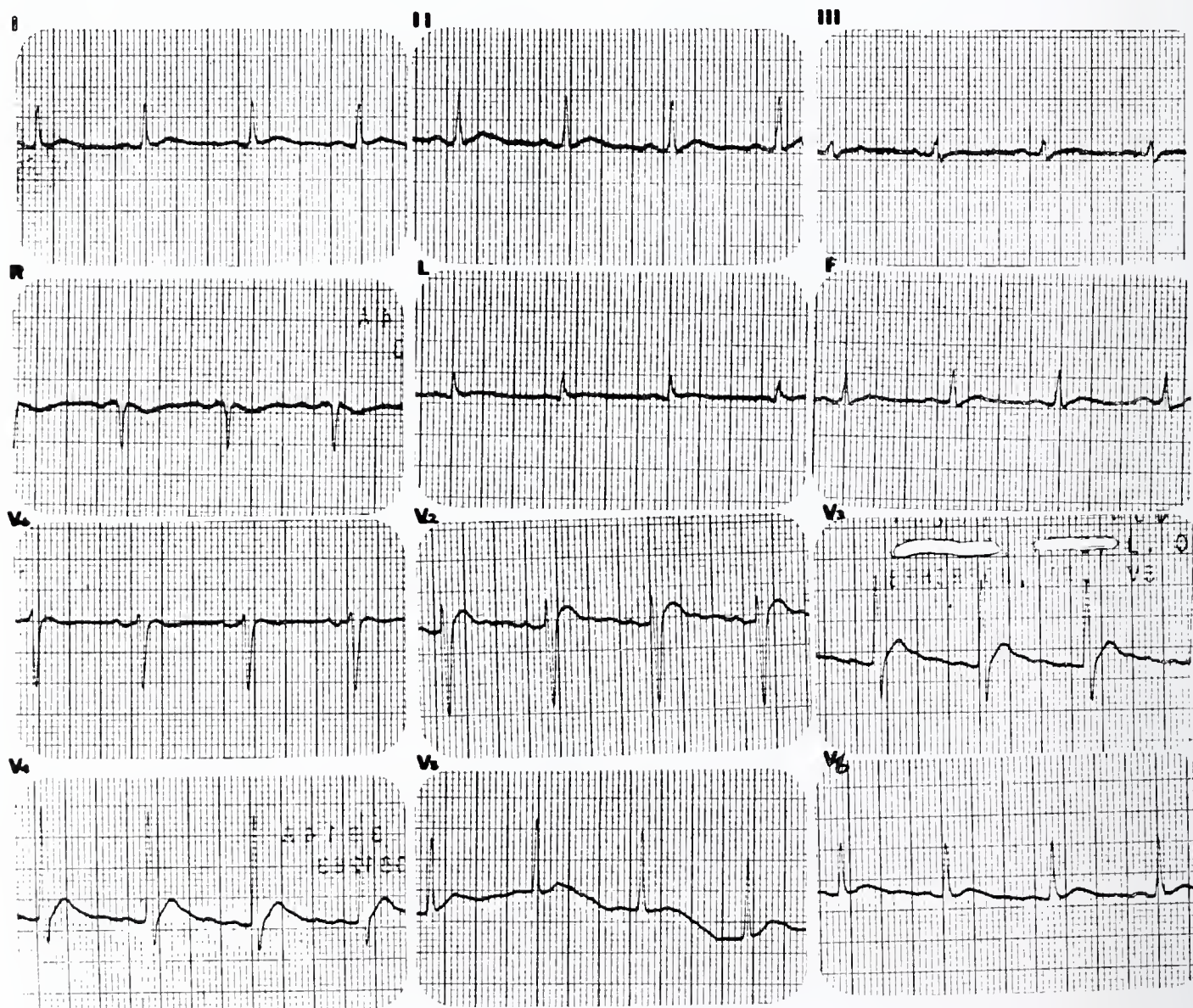
## OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 225)

**HISTORY:** P. J. is a 46-year-old black man who presented with weight loss, malaise, and dulled mentation. On physical examination, he was found to have conjunctival suffusion and supraclavicular adenopathy. What do you think about his electrocardiogram?



Gordon Akin, M.D., and John W. Watson, M.D.

UAMS-LRVAMC Division of Cardiology

Little Rock, Arkansas



## BEWARE: Greenstick Fracture of the Proximal Tibial Metaphysis

Philip H. Johnson, M.D.\*

In young children an unusually innocent fracture occurs which produces a surprising deformity. Fracture of the proximal tibial metaphysis with valgus angulation sets in progress a strange sequence of events. Usually the fracture appears to be undisplaced but closer examination reveals a small defect in the cortex medially. Reduction usually does not appear necessary. Over the next three to four weeks, in plaster, valgus angulation seems to increase. During the next twelve months valgus angulation increases to an alarming degree, defying the expected tendency for spontaneous correction.

Figure 1 illustrates the case of a four-year-old child presenting seven months following an "undisplaced fracture" of the proximal tibia result-

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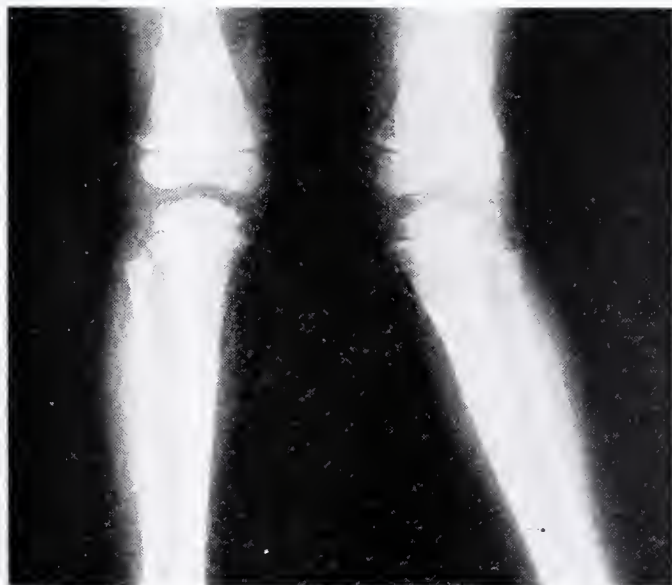


Figure 1.

ing from a fall from a tree. Treatment consisted of a long leg plaster cast for six weeks without reduction. X-rays made a week following injury reportedly showed anatomic alignment. The parents state that some angulation was present upon removal of the cast. During the next six months gross valgus angulation with knock-knee deformity occurred. The parents were understandably disturbed with this progressive deformity. The fractures responsible for this strange phenomenon is seen in Figure 2.

Cozen in 1953,<sup>1</sup> described four cases of this unusual progressive valgus deformity. Since that time several clinicians have reported only a handful of cases. All the cases reported fall between ages two and twelve with the vast majority occurring between two and six years of age. There is an associated fracture of the fibula in only 30-50% of cases.<sup>1,6</sup> There is never any evidence of proximal epiphyseal plate injury. By 1971, Cozen and Jackson<sup>3</sup> had accumulated ten cases all of which they described as "undisplaced or minimally displaced." The majority of reported cases have not been considered severe enough to demand reduction. In 1982 Visser reported ten cases.<sup>7</sup> A perfect anatomic reduction could not be obtained in any of them, suggesting a soft tissue block at the medial fracture site. Weber<sup>8</sup> surgically explored four fresh fractures. The periosteum on the medial side was found to have been avulsed, and with it a flap of pes anserinus was stripped from the medial surface of the tibia. They were lodged in the fracture site blocking reduction. He now recommends surgical explora-

tion when a complete reduction is not possible by closed methods.

X-rays of an externally rotated tibia will tend to minimize the apparent defect in the medial cortex.<sup>3</sup> Lack of complete anatomic reduction may be thought unimportant because growth and bone remodeling in young children usually correct angular deformities rapidly. With this fracture, however, the patient and physician get little help from Mother Nature. Most improvement in position acquired at the time of manipulative reduction is lost in the first few weeks as valgus angulation progresses in the cast.<sup>6,7</sup> This has been considered by some to be a result of weight bearing in plaster.<sup>2,4</sup> Six to eight weeks of cast immobilization is usually recommended for this fracture. When the cast is removed, good fracture callus and healing is present but valgus angulation is apparent clinically and radiologically. It is over the next six months that the most frightening manifestation of this fracture occurs. With the fracture well healed and without any

injury to the epiphysis, a progressive valgus deformity occurs. Up to 25 degrees of angulation can occur within the first twelve to eighteen months following fracture healing.<sup>3</sup> There appears to be a strange plastic bending of the tibial diaphysis below the fracture. In Figure 3 twenty degrees of tibial angulation is present sixteen months after fracture. The epiphyseal plate proximally progresses in a normal fashion, cephalad, moving the fracture scar distally. The major deformity, therefore, occurs in the tibia distal to the fracture. No satisfactory explanation for this peculiar phenomenon has been advanced. Weber<sup>8</sup> suggests that an asymmetric pull of the biceps and fascia lata going down to the foot on the lateral side is unbalanced by the normal pull of the pes anserinus muscles trapped in the fracture site. This valgus deformity peaks during the second year. Simultaneously, an overgrowth of the fractured tibia occurs which measures 0.2 to 2 centimeters.<sup>3</sup> This increase in growth stimulation, compared to the normal side, occurs during the first six months following the fracture.



Figure 2.



Figure 3.



After the second year, a second strange phenomenon begins to appear. The distal tibial epiphyseal plate attempts to correct with a medial tilt. During the next several years a strange "S-shaped" tibia begins to form. Skaka<sup>6</sup> has beautifully illustrated this interesting sequence of events (Figure 4). Drawing I illustrates the fresh fracture; Drawing II, the tibia after valgus angulation during the first several months; Drawing III the attempted correction in the distal tibial epiphysis which begins after two years. In Drawing IV years of growth and remodeling have produced a longer tibia which has resulted in a decrease in angulation (Angle B). This tragic story, therefore, has somewhat of a happy ending. Figure 5 shows the case in Figure 1 four years following fracture. Note the general realignment but with an "S-shaped" configuration.

Wedge osteotomy has been recommended after the initial deformity reaches 15 degrees.<sup>5</sup> However, recurrences after osteotomy have been reported and some have required repeat surgery.<sup>3,8</sup> Blount epiphysiodesis was performed in four of Visser's cases. Stopping the growth of the medial epiphyseal plate with staples theoretically would cause the deformity to reverse. After correction has been obtained the staples are removed. Unpredictable changes in the growth of an epiphysis however may occur after surgery. Therefore, late surgery only rarely seems to be justified in light of the remodeling which can be anticipated over a period of years.

After a review of the literature, it is clear that the following treatment plan is recommended.

For strictly undisplaced fractures a long leg cast should be applied in complete knee extension. Six weeks of immobilization is sufficient and weight bearing should be prohibited.<sup>2,4</sup> Skaka<sup>6</sup> mentioned six cases of pure undisplaced fractures, ages one to six, treated in plaster with no subsequent deformity. This, no doubt, represents a fracture without disruption of the periosteal sleeve medially. Care, however, should be taken to obtain a true AP x-ray to show the medial cortex in profile. Even in these innocuous appearing fractures, the family should be warned that some valgus deformity may occur.

Angulated fractures should be treated by attempting closed reduction under general anesthesia. It is important to demonstrate actual closure of the medial cortex. Breaking through the lateral cortex is beneficial but is often impossible as a result of the intact fibula laterally. The cast should be molded into varus with the knee in extension. Again, the family should be warned of valgus deformity and its expected sequelae. If anatomic reduction cannot be obtained, open reduction is indicated.<sup>7,8</sup> Any soft

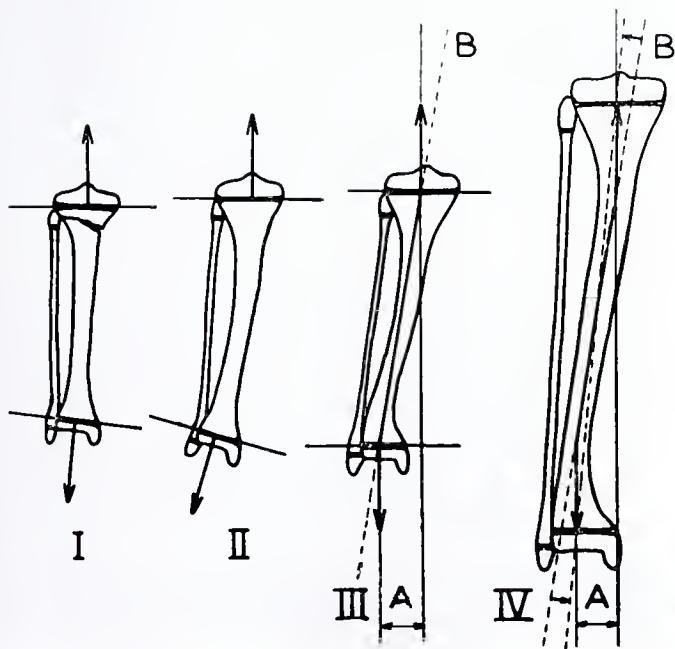


Figure 4.



Figure 5.

tissue blocking closure of the medial cortex should be removed and the pes anserinus and periosteum sutured to its original position. Weber has shown that normal healing occurs with good tibial alignment after this procedure.

Wedge osteotomy or Blount epiphysiodesis may be indicated in unusual circumstances but complications from these procedures may be anticipated.

In summary, fracture of the proximal tibial metaphysis with valgus angulation in children ages two to six is a significant fracture with long term complications. If not treated aggressively, this fracture is almost always followed by progressive genu valgus and tibial overgrowth.<sup>8</sup> From the outset, the family should be informed of the anticipated deformity.

#### BIBLIOGRAPHY

1. Cozen, Lewis. Fracture of the Proximal Portion of the Tibia in Children Followed by Valgus Deformity. Surg. Gynecol. Obstet. 97:183-188, 1953.
2. Currarino, G., and Pinckney, L. E. Genu Valgus After Proximal Tibial Fractures in Children. Am. J. Radiol. 136:915-918, 1981.
3. Jackson, D. W., and Cozen, L. Genu Valgum as a Complication of Proximal Tibial Metaphyseal Fractures in Children. J. Bone Joint Surg. 53A:1571-1578, 1971.
4. Pollen, A. G. Fractures and Dislocations in Children. Churchill Livingstone, Edinburgh, London, 1973.
5. Salter, R. B., and Best, T. Pathogenesis and Prevention of Valgus Deformity Following Fractures of the Proximal Metaphyseal Region of the Tibia in Children. J. Bone Joint Surg. 54B:767, 1972.
6. Skaka, S. V. Valgus Deformity Following Proximal Tibial Metaphyseal Fracture in Children. Acta. Orthop. Scand. 53:141-147, 1982.
7. Visser, J. D., and Veldhuizen, A. G. Valgus Deformity After Fracture of the Proximal Tibial Metaphysis in Children. Acta. Orthop. Scand. 53:663-667, 1982.
8. Weber, B. G., et al. Treatment of Fractures in Children and Adolescents. Springer-Verlag, Berlin, Heidelberg, New York, 1980.







## Recurrent Abdominal Pain in Childhood

Sam L. Shultz, M.D., F.A.A.P.\*

Recurrent abdominal pain (RAP) is a very common complaint in childhood and most frequently involves the entire family unit. Habitually, these patients and parents are known as doctor shoppers. It is possible to break this cycle of little belly-achers/big belly-achers; the workup is not extensive if the physician is willing to spend time at first. If the time is not spent at first, one can almost be assured that the physician will spend it later on numerous office visits. Much of the original work on RAP was done in the United Kingdom. Apley defines RAP as three discrete, debilitating episodes of pain in a three-month period no more than twelve months prior to your examination.<sup>1</sup>

The etiology is incompletely understood, even though it is known that psychosomatic episodes are usually the triggering events. There have been some questions of genetic transmission and some authors feel that a generalized disturbance of the autonomic nervous system may exist. They based this on the increased response to anticholinergic drugs that has been observed, as well as the high arousal state seen in many children with RAP. The high arousal state on physical examination may be manifested by dilated pupils, clammy soles and palms, and mild tachycardia.<sup>2</sup> There is no indication, however, that these children exhibit lower pain thresholds.<sup>1</sup>

With regard to the prevalence of RAP, most studies indicate a rate of 10-18 percent. There is a slight prevalence of females but it is insignificant. Frequencies seem to be equal in the United Kingdom, U.S., and Scandinavia. The age of onset is 8½ to 9½ years, with most of the true RAP cases occurring between ages 5 and 14. Abdominal pain occurring outside these ages causes a clinician

to think about organic reasons for abdominal pain.<sup>3</sup>

With regard to history taking, the clinician must allow time for the family and patient to explain their concerns. It may even require that a longer appointment time be given at another date. Again, the clinician can decide whether to spend time at first or do the history and physical in bits and pieces later. The evaluation is, of course, frustrating for all concerned. The parents expect a definitive diagnosis within ten minutes that can be cured by medication. The physician realizes that only approximately 10% of RAP children have an organic etiology for their pain.

Very important in the history taking is the observation of the parent/child interaction. The maturity of the child can and should be assessed. The parental confidence in the child can be measured by noting who gets to answer the questions. The physician will pick up that the child is seldom allowed to give a complete answer on his own, or that the parent and child disagree on almost all answers. Also, children will usually demonstrate some mood swing during a prolonged interview.<sup>2</sup>

Symptomatology reveals a characteristically episodic pain of rather vague nature with periods of wellness in between. Most commonly it is periumbilical. Unfortunately, pain location is not a fool-proof method for differentiating the organic from non-organic. Likewise, the relationship of pain with eating, exercise, sleeping, etc., is of little help to the clinician. The frequency of episodes and the duration of pain have not been shown to be significant factors that will help in the diagnosis.<sup>4</sup> A history of stressful situations going on before and at the time of a pain episode, however, are very helpful. The history may bring out serious family illnesses, financial duress, divorce, moving, or loss of friends or fam-

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ily. Associated symptoms are not infrequent. Among the most common of these are: headache, pallor, diarrhea, vomiting, anorexia, tiredness, and limb pains.<sup>3</sup> In one large series only 9% of children with RAP had a perfect or near perfect school attendance record.<sup>4</sup>

Family history often reveals parents or other family members with abdominal symptoms. Up to 50% of first degree relatives in two studies were noted to have non-organic gastrointestinal complaints. Migraine and limb pains are also frequent in the families of RAP children. History of family stress that was rated as moderate to severe by a psychologist was found in approximately 40% of RAP families in one study.<sup>4,3</sup>

While no absolute statement can be made about the psychological makeup of the child with RAP, emotional disturbance is found in a large percentage, as high as 70%.<sup>1</sup> Personality features, while not characteristic nor diagnostic, can aid in distinguishing the organic from the non-organic child.

The most common findings in these children are:

- 1) high achievers
- 2) very good students
- 3) tolerate failure poorly
- 4) often called "the best child" by the parent or "teacher's pet"
- 5) rather compulsive behavior

A personality trait which the majority of these children share is that of worrying and feeling responsible for tasks that would be more appropriate for older children. They do not express anger well and seem to withdraw in a stressful situation. There appears to be a second personality type with normal intelligence but immature behavior. These latter children often are found to be suffering from comparison to another sibling. It is felt that these children develop anxiety because of their inability to meet the expectations of the family. Later they may develop a learning disability.<sup>2</sup>

A thorough physical examination is necessary; the parents will not be appreciative of a cavalier attitude toward the child's complaints. It is, of course, necessary to consider organic disease. A helpful hint is to note on the growth chart both present height and weight, and, if possible, previous growth perimeters. These children are found to grow at a regular rate, usually at around the 50th percentile or above. They do not show the

delayed growth pattern that one may expect of a child with chronic disease. Physical examination may reveal cold extremities, sweaty palms, chewed fingernails, and dilated pupils as evidence of a heightened anxiety state. Abdominal examination is usually unremarkable save for vague tenderness and no localization of the pain.

A minimum of laboratory data is needed in the diagnosis of the child with RAP. It would be unwise to do no laboratory studies as an organic etiology might be missed or the parent might feel the physician is not taking the problem seriously. A complete blood count, sedimentation rate, UA, and stool studies for occult blood, ova and parasites are felt to be most useful.<sup>2</sup>

Galler and associates suggest, in addition to a thorough history and physical, the tests mentioned above plus amylase and liver function studies. It is felt that these screening tests, if negative, exclude 95% of organic disorders producing RAP. Therefore, no x-ray procedures are done in the initial phase of laboratory assessment.

In the second phase of testing, these investigators suggest further studies only on those children with abnormal results or where the primary physician feels an organic disorder may be present in spite of negative tests. A lactose tolerance test, lead level, radiographic studies of the GI and GU system, endoscopy, and gyn/surgical consultation are obtained then.<sup>3</sup>

It may be noted that other laboratory tests are not found to be too useful. For example, the electroencephalogram is almost never helpful as abdominal epilepsy is quite rare. The criteria for abdominal epilepsy are as follows: paroxysmal pain pattern, abnormal EEG during the pain episode, impaired consciousness, and a definite postictal state. The clinician can almost always make the differentiation between these signs and the episodes of simple RAP. Several investigators feel that endoscopy is traumatic to the child and that use of this may reinforce the condition in the mind of both the child and parent.<sup>3</sup>

The timing of the laboratory evaluation is important. It is best to explain to the parent and child that some lab testing will be done and the results explained to them in a conference setting. The parents should be informed at first how extensive a workup is felt to be needed. This may preclude their requesting further tests if the original battery shows no organic disease.

The differential diagnosis of recurrent ab-



dominal pain is quite lengthy. The most common organic causes in the age group being considered are genitourinary disease, peptic ulcer disease, and inflammatory bowel disease. Usually by the history, physical, and laboratory tests outlined before, these diseases can be ruled out from the child with non-organic RAP.<sup>2</sup>

Treatment of these children, if begun early, is usually satisfactory and does not require the services of a gastroenterologist nor mental health counselor. In the eyes of a parent, the treatment begins at the onset as the history, physical and laboratory work is observed. Again, many of these parents have been doctor shopping for some time and perhaps are disenchanted with the lack of attention paid to the symptoms. At the completion of the laboratory testing, it is best to have a formal sit down session with the child and the parents. Treatment falls into three main areas:<sup>5</sup>

- 1) Support the family and realize that they are defining their needs to the physician in terms of Junior's tummy. Listen to what they have to say about family goals and expectations and how these may have been affected by "having a sick child."
- 2) Redefine the problem as not purely organic. The astute clinician will never pass RAP off as a malingering nor tell the parents that it "is all in his head." It seems best to explain RAP to most families in terms of stress and tension, entities that are well understood by almost all parents. Early on it must be noted to the parents that the examination and lab studies were within normal limits. Since emotional problems may be interpreted as mental disease to many people, the physician should be ready to explain that he does not think the child has a mental disorder. The family needs to feel that the problem is real and deserving of their attention if they are to be involved in working with the youngster. Because these families are usually quite protective of the patient, the statement of prognosis will motivate most families to follow the physician's advice. Simply stating that "if you will help Junior deal with his stress, things will get better over a period of time" will be helpful.
- 3) Formulating a treatment plan is important in giving the parents a set of instructions that they can follow at home. Show the parents

that by supporting each other, they can help the child learn to deal with his own stress in a more helpful way. Generally, such a treatment plan will promote age appropriate activities for the child. Remember that most of these children are usually performing activities above or below their chronological age.

Parents should not be punitive regarding the child with RAP. However, they should be able to convey the attitude that normal childhood activities can be carried out, even with pain. Parents should be available to talk about the child's feelings with him at any time. It is best to not allow the parent/child talks to center on the pain episodes themselves. Reminding the child that the physician has not found anything wrong with the youngster is usually of help.

These children should not be treated as ill, special, or bad. Likewise, they should not be isolated since they lose their chance to verbalize to the parents if they are sent to their rooms. It almost goes without saying that the parents can expect the symptoms to increase in most of these children after the formal sit-down session and after the family begins to make some changes in the way they respond to the pain.<sup>5</sup>

Butler prepares the parents for the diagnosis of RAP by including it in the differential diagnosis at the original evaluation. If the workup reveals no organic disease, she explains RAP in terms of stress and encourages the parents to look for precipitating factors in the family/school structure rather than to look for further medical opinions. The parents are reassured that (1) the pain is not serious and will pass, (2) the child is not malingering, and (3) the episode of RAP is an unconscious act and the child does not think about bringing it on.<sup>6</sup>

Psychiatric referral is occasionally necessary, but for the most part, the counseling can be handled by the primary care physician. Signs that would point to need for psychiatric intervention include: serious behavior disorders, a worsening depression with fall off in school attendance, lack of interest in regular activities that at one time were enjoyable. A severe family disruption in which the parent is incapable of talking with the child about his or her problems would also necessitate psychiatric help.

Drug therapy is almost never indicated and may reinforce the problem.<sup>4,5</sup>

The prognosis in these children is much more favorable when the above supportive therapy is offered by the family physician or pediatrician. Follow-up studies in the pediatric literature indicate an improvement in children evaluated and treated within six months of the onset of symptoms.<sup>3</sup>

Without treatment, the majority of children continue their symptomatology into adult life with all the attendant emotional and economic consequences.

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#### REFERENCES

1. Apley, J. The child with abdominal pain. 2nd edition. Oxford, Blackwell Scientific Publications, 1975.
2. Lebenthal, E. *Textbook of Gastroenterology and Nutrition in Infancy and Childhood*. Raven Press, New York, 1981.
3. Galler, J. R., Neustein, S., and Walker, W. A. Clinical Aspects of Recurrent Abdominal Pain in Children. *Advances in Pediatrics*, Year Book Medical Publishers, 1980.
4. Liebman, W. Recurrent Abdominal Pain in Children. *Clinical Pediatrics* 17:149, 1978.
5. Berger, H. G., Honig, P. J., and Liebman, R. Recurrent Abdominal Pain. *Am. J. Dis. Child* 131:1340, 1977.
6. Butler, H. L. Personal communication. 1983.



## EDITORIAL

### Vascular Disease

Alfred Kahn, Jr., M.D.

There have been many advances in medicine over the years. This is not a steady upward climb, but a climbing from plateau to plateau — and unfortunately as time goes by not every presumed advance “pays off.” A good example was the early wild enthusiasm over Five Fluorouracil — it is a good drug but not a panacea.

One of the newer, promising techniques of dealing with arterial insufficiency has been the use of percutaneous transluminal angioplasty. This has been tried as a therapeutic measure in coronary artery stenosis. It has also been tried as a therapeutic measure in peripheral arteriosclerosis. Flanigan, Schuler, Spigos, and Lim have published an evaluation of this technique as a therapeutic procedure in narrowed blood vessels in the lower extremities (*Surgery Gynecology & Obstetrics*, Vol. 154, pg. 181, February, 1982). The authors cite the fact that it was reported in

literature in which arteries were dilated in the lower extremities with only fair results; stenotic lesions fared better than occlusions; apparently there was only about a 40% patency rate over the long-term. Better techniques and better instruments have led to further trials of percutaneous transluminal angioplasty. Flanigan, et al, have reviewed some of the literature on this and report that using a flexible balloon-type catheter for dilation of the arteries in the lower extremities have seemingly good initial results. Patency rates of up to 95% for a two-year period were obtained. Because of the interest in the balloon-type catheter, Flanigan and his associates performed 34 angioplasty procedures on cases on whom they felt justified the use of this procedure — following a very strict protocol. The individuals which they used were: severe intermittent claudication, limb salvage, and impotence due to



lack of blood supply. They report that they had an initial survival rate of 93% — 15 of 17 iliac artery lesions, seven of seven superficial femoral artery lesions, three of three popliteal artery lesions and one of one peroneal lesion and one stenosis of a graft. The authors had some complications: five balloons ruptured, of which two required an operative removal. Flanigan and associates followed their cases for a period of 3-21 months. They studied cases before angioplasty, immediately after angioplasty, and at three month intervals. They concluded that although they had immediate evidence of anatomic success in 93% of the procedures, improved hemodynamics occurred in only 62%. They further state that at nine months they were successful in only 48% of the angioplasty procedures. They also concluded that failure rates after the angioplasty occurred in only 18% of the individuals who had iliac artery dilation, but in femoropopliteal procedures, late failure occurred in 50% of the operations. They concluded by stating "the results of this study and of others indicates that femoropopliteal balloon angioplasty is not a durable procedure."

The problem of salvage in the presence of vascular disease has been attacked by other techniques than percutaneous transluminal angioplasty. There is a very interesting editorial in *The American Journal of Medicine* by Sobel and Bergmann entitled "Coronary Thrombolysis: Some Unresolved Issues (Am. J. Med., Vol. 72, pg. 1, January, 1982). If there is a serious coronary artery incident the myocardium lives or dies depending on a complex interplay of a number of factors. It has been assumed, based on experimental evidence, that if an occlusion or largely occluded vessel could be re-canalized, the myocardium which the vessel feeds might be saved from infarction — provided the procedure was done within a certain early time-frame, and provided an adequate blood flow was established. Attempts at non-mechanical revascularization of the heart have been reported by various authors for more than 50 years. Apparently, enthusiasm died out for a long time, but recently, some centers are again trying coronary thrombolysis. Sobel and Bergmann are concerned that some of the unresolved issues in this procedure will not receive adequate attention from the medical public.

One of the first unresolved issues is the timing

of the thrombolysis. If it is done too late, the myocardial cells supplied by the thrombosed vessel will probably die and no amount of therapy will be worthwhile. The authors state that a big problem involved here is that the signs of serious coronary disease used in the clinical studies do not always mean a myocardial death — thus, it is hard to pick the cases which would respond to therapy; some cases may be overlooked that may respond. Furthermore, some cases spontaneously recover viable myocardium even after what appears to be a major coronary artery occlusion — by independent clinical signs as CPK tests, S-T Segment changes, etc.

Another idea which troubles Sobel and Bergmann was that intravenous thrombolytic agents seemed to work in many vascular clots in the periphery of the body; however, intravenous injection of a similar nature for coronary artery occlusion have not been proved to be effective. The thrombolytic material in coronary artery disease apparently works better if delivered to the coronary artery by catheterization. All of which leads Bergmann and Sobel to state that they are not certain that in some instances lysis of the clot in coronary artery disease by intravenous injections may be occurring — and despite lysis of clots, the myocardium continues to the point of infarction.

The authors also speculate on the ill effect of poorly timed reperfusion of the injured myocardium; later reperfusion is said to cause myocardial infarction in experimental animals. They further raise the question as to whether or not conventionally accepted criteria of successful intracoronary thrombolysis indicated benefit. Apparently the yardstick for success is angiographic improvement, disappearance of chest pain, fall in Q-Waves, fall in enzymes, etc. These authors feel that the interpretations of studies using these parameters are open to question — angiographic patency does not insure an adequate long-term flow of nutrition to the myocardium in some instances; improvement in pain could result in an increase in injury rather than improvement; some of the electrocardiographic changes are totally non-specific and thus increase deterioration; even improved left ventricular ejection fraction following intracoronary thrombolysis is said to be possibly due to stiffening of the myocardium rather than to enhance the pumping effect.

Sobel and Bergmann used positron emission tomography in experimental animals to study the

effect of intracoronary thrombolysis therapy in dogs. They found that thrombolysis was worthwhile only if it was applied within the six hours after the onset of ischemia. If thrombolysis re-established the patency of the vessels after six hours the metabolism of the heart muscle is not improved.

Lastly, Sobel and Bergmann state that the long-term effect of intracoronary thrombolysis has not been really defined; they report that residual stenosis is commonplace and recurrent thrombosis may occur. They state that they are not certain how to select patients, and are not certain how to be certain that they are getting genuine benefit from the procedure.

Coronary artery bypass surgery is still being closely scrutinized by the medical profession; and it is the subject by Shalibudin H. Rahimtoola's article entitled "Coronary Bypass Surgery for Chronic Angina — 1981. A Perspective," (*Circulation*, Vol. 65, pg. 225, February, 1982). Rahimtoola has been concerned about some problems in evaluating the data to establish a good baseline in evaluating serious coronary disease. He feels that the series medical treatment of cases have not been adequately controlled in many instances; these series do not characterize the risk factors of ventricular function, etc. adequately. Because of this problem of lack of control in the medical series, Rahimtoola feels that it is difficult to compare the medical and surgical therapies of angina pectoris; even in current series the author is afraid that the patient's selection is skewed because the medical treatment groups may contain inoperable patients and high risk patients who are not readily identified. The author really feels that randomized prospective studies are the only satisfactory way to evaluate and compare the medical therapy versus the surgical therapy of coronary disease.

One of the problems the statistician is faced with is whether or not sub-groups are inadvertently misplaced. The author is quite convinced that the literature concerning medical treatment of angina pectoris is difficult to evaluate because of the problems enumerated above — and other statistical difficulties. Rahimtoola has a very nice chart indicating the prognosis in non-surgically treated patients in the early 1970's. Some of the information in the chart is as follows: if there is normal left ventricular function, one-vessel disease results in 0.6% annual mortality; two-vessel

disease results in 1.6%; three-vessel disease results in 3.6%, and 10% if there is left main coronary artery disease. If there is abnormal left ventricular function, the annual mortality doubles or triples. In one example, there is a 6-11% annual mortality in three-vessel disease with abnormal left ventricular function. In cases of congestive heart failure with 1-, 2-, or 3-vessel disease there is a 12.4% annual mortality.

The author raises the question as to whether or not medical therapy for angina pectoris has really changed in the last 10 years; he states that it is difficult to provide this by the data supplied in various articles despite some improvement in the nature of our treatments including various uses of nitrates and beta blocking therapy. Rahimtoola states that coronary artery bypass surgery has reduced symptoms in 76-90% of patients — and 33-55% of the patients actually become symptom-free; 5-6% of the patients, he states, will deteriorate. He has a chart in the article indicating the improvement in using medical therapy versus surgical therapy, for example, he states that using medical therapy only 9% of the cases become asymptomatic whereas 55% become asymptomatic with surgery. The chart indicates that angina at rest occurred in roughly 50% of the medically treated cases had an uneventful course, over seven years, 12%, whereas 50% of surgically treated cases had an uneventful course.

The author also has an interesting chart on the patency of vein grafts. If the vein grafts stayed open only 29% of the cases had angina pectoris whereas if the vein grafts were not patent, 72% of the patients had angina; with the vein graft patency, 27% had shortness of breath; with the vein grafts closed, 48% had shortness of breath. Rahimtoola states that it is difficult to see a difference in the improvement of myocardial infarction in surgically treated cases as compared to medically treated cases — however, he feels that there is an increasing number of perioperative improvement of myocardial infarction and this elevated percentage is due to use of newer techniques. It is felt that perioperative artery infarction rates could be increased and surgical therapy will prove to have a lower incidence of myocardial infarction than medically treated cases.

The author collected operative mortality from operative studies and found that it was 4-5.6% in randomized cases and nonrandomized cases



operative mortality was only 1-4%. One interesting statement in the article concerns late survival — in this, the author indicates that his review of literature shows that studies of patients performed four years after surgery indicates that the survival of surgically treated patients with three-vessel disease was similar to that with patients with two-vessel disease and he goes on to say that survival was not significantly different from patients with one-vessel disease — these were in non-randomized studies. With regard to left ventricular function, Rahimtoola states that operative therapy and medical therapy achieve about the same results — no significant change; he does feel that patients whose left ventricular function shows improvement after taking nitroglycerin

may show an improved left ventricular function after surgery.

Radionuclide studies do show that in the presence of coronary artery disease the left ventricular ejection fraction decreased with exercise; the author states that this can be reversed in a higher percentage of cases of coronary artery bypass surgery. Rahimtoola states that coronary artery bypass surgery has “changed significantly in the past decade.” Operative mortality has fallen by several percentage points; perioperative infarction has decreased in one instance from 11.4% to 2.4%; more complete vascularization is said to be obtained; late survival is said to be improved.



## *“From Other Years”\**

*Journal of the Arkansas Medical Society*

Vol. 4 No. 5 Nov. 15, 1893 p. 220

### **The Little Rock Medical Society.**

The annual election of officers was held the first Monday evening in this month and resulted in the election of Dr. D. A. Gray, President; Dr. W. H. Miller, Secretary, and Dr. R. W. Lindsey, Treasurer. The attendance was not as large as heretofore on election nights. After the meeting adjourned, the retiring President, Dr. Edward Meek, invited the Society to Gleason's Hotel, where an enjoyable supper was spread. The refreshment feature was not mentioned until after adjournment, else the attendance at the regular meeting would undoubtedly have been much larger.

It has occurred to THE JOURNAL that its previous references to refreshments and elections may possibly have kept some of the over-sensitive away. It hopes, however, that such was not the case. The list of absentees is largely composed of those who have received all the honors the Society is able to bestow and are so well fixed in the good things of this world that the most dainty refreshments could not tempt them. The new President is devoted to medical societies, and has

the energy and ability to rehabilitate the Society. If the Society does not prosper during his administration, it will not be his fault.

From the University of Arkansas for Medical Sciences Library, History of Medicine/Archives.



### **ANSWER—Electrocardiogram of the Month**

**DISCUSSION:** The patient is in sinus rhythm at a rate of 90 per minute. His Q-T interval measured in  $V_2$  is 0.24 seconds. The corrected Q-T interval by the Bazett formula is 0.29. The usual normal range for the corrected Q-T interval is 0.35 to 0.44. Allowing for age, heart rate, and sex, this patient's uncorrected Q-T interval should be between 0.28 seconds and 0.36 seconds. Thus, his Q-T interval is short. Additionally, note that the ST segment is virtually absent in  $V_2 - V_4$ , that the T-wave peaks early, and that the descending limb of the T-wave has a gradual downslope as compared to the foster upslape of the ascending limb of the T-wave. Though a short Q-T interval may be seen in hypercalcemia, digitolis therapy, and thyrotoxicosis, the additional abnormalities noted in the preceding sentence are said to be compatible with hypercalcemia. This patient had a serum calcium of 20 mg. per 100 ml. and proved to have metastatic carcinoma.

## MEDICINE IN THE NEWS



### THE MONTH IN WASHINGTON

#### Unemployed's Health Care Funding Unsettled

If the Senate Finance Committee has its way, a health plan for the unemployed will be financed by physicians and Medicare beneficiaries.

The committee voted 10 to 2 on July 13 to pay for a health plan for the unemployed by increasing Medicare Part B premiums and by freezing the maximum amounts Medicare will pay physicians for a particular service. The panel then sent the measure, which provides \$1.8 billion in block grants to states, to the Senate floor.

Senate Democrats plan an all-out war on the Finance Committee measure and have vowed that no plan tying health insurance for the unemployed (HIU) to Medicare cuts will "emerge from the Senate" and Senator Edward Kennedy (D-MA) is threatening a filibuster against the measure. Even if the Senate were to pass the measure, the HIU version that was expected to come before the House of Representatives in early August does not include a financing mechanism. House agreement to the Finance Committee plan is considered unlikely. The Senate probably will not vote on HIU until after the Congress' summer recess.

The Finance Committee HIU bill would limit Medicare reimbursement to physicians by reverting to the prevailing charge limits in effect for the program prior to the annual update that took place July 1, 1983. They would be held at that level from October 1 until July 1, 1984. Because the measure would limit only prevailing fees, it is less restrictive than the Reagan Administration proposal to limit both prevailing and customary fees. Physician reimbursement savings in the Finance proposal are estimated at \$1,375 million over the next three years.

Another \$359 million in savings would come from increasing Part B premiums each year so that they always would cover 25% of the cost of the medical services reimbursed under that part of Medicare. A temporary provision setting premiums at 25% of program costs is scheduled to end December 31, 1984.

The combined savings from the two proposals would finance a two-year, \$1.8 billion health plan for the unemployed. States would be required to put up matching funds and to means test eligibility. Benefits could not be provided to any family with an income greater than the state's median income for similarly sized families. The state could collect up to 8% of the jobless worker's unemployment check to help pay for benefits.

Meanwhile, repeated postponements of HIU deliberations on the House floor have led to speculation that support for the measure may be cooling.

The issue is to be brought to the floor under a rule that would first bring up the House Commerce Committee's three-year, \$6.8 billion entitlement plan but would then substitute a two-year, \$4 billion block grant measure endorsed by the Ways and Means Committee.

Only three amendments would be permitted under the rule. Two deal with abortion. One would require an assets test for those receiving HIU benefits. No other substitutes, such as a less costly plan pushed by Rep. Thomas Tauke (R-IA), would be permitted.

The AMA has written House members urging defeat of the current rule because it is "excessively restrictive."

\* \* \* \*

#### Stockman Hits Hospice Benefits

A new wrinkle has developed in the continuing controversy over a new Medicare hospice benefit scheduled to take effect November 1.

OMB Director David Stockman wants to set "eligibility" standards that would limit the number of hospice patients to just over 30,000 in the first year, rising to about 40,000 over the next two years. Only currently existing hospices could participate in Medicare initially. He argues that otherwise, rather than saving money as intended, the hospice benefit will cost \$350 million to \$800 million over the next three years.

Stockman also wants to keep the cap on total expenditures per hospice patient at less than the



\$6,500 Congress thought it was enacting. The cap became an issue earlier when HCFA said that using the methodology called for in the law, it came up with a cap of \$4,332. Stockman wants the cap to remain at that level.

HHS Secretary Margaret Heckler, who sponsored the bill creating hospice coverage while she was in Congress, agreed with House Ways and Means Committee members to a provision to raise the cap to the \$6,500 level. Ways and Means and the Senate Finance Committee attached provisions to do that to a bill providing health insurance for the unemployed. The provisions could, however, fall victim to a Presidential veto of the health plan for the unemployed.

Meanwhile, the National Hospice Organization says Heckler has discussed the regulations with them and made some desirable revisions. Rates of payment for hospices have been increased, for instance, though NHO representatives say they are still inadequate.

NHO President Don Gaetz said the organization also has concerns over some clinical issues that have been largely ignored in the flap about the rates. For instance, Gaetz said NHO wants the department to upgrade the staffing requirements for inpatient facilities and to put some teeth in a provision assuring the continued involvement in the case of the patient's attending physician.

The hospice regulations were to have been published in March but have been held up by the ongoing controversy. Now some critics think the delay is deliberate and that the regulations, which by law are to be out in final form September 1, will be issued as an interim final regulation, making changes unlikely. Another possibility that worries hospice supporters is that the November 1 date the benefit is to take effect will be postponed — an outcome Gaetz said would prompt legal action from NHO.

\* \* \* \*

#### Medicare Index Increased July 1

The index governing increases in Medicare's "reasonable" charge limits for physicians increased by 5.85% effective July 1.

The Health Care Financing Administration estimates that unless it is repealed, the new index, published in the July 1 Federal Register, will increase Medicare payments to physicians by about \$270 million over the year it remains in effect.

The Reagan Administration had requested

that the index be frozen and the Senate Finance Committee has voted to roll back the index to the pre-July 1 level.

\* \* \* \*

#### Pacemaker Legislation Imperils Prospective Pricing

Recently-introduced legislation to reduce Medicare payments for cardiac pacemaker implantations could politicize Medicare's prospective pricing system before it even gets off the ground, according to critics who include Medicare officials, hospitals and physicians.

The legislation, introduced July 14 by Sen. John Heinz (R-PA) and Rep. Ron Wyden (D-OR), would reduce payments for cardiac pacemaker implantation to both physicians and hospitals. The hospital reductions would be achieved by lowering the rates for pacemaker implantation in the new diagnosis related groups (DRGs) payment system Medicare will begin phasing in October 1.

DRG rates have not been established yet, and the American Medical Association and the American Hospital Association, among others, have claimed that lowering the pacemaker DRG rates before they are even settled on is "premature."

AMA, AHA and others fear that the pacemaker legislation, which its sponsors say could save \$200 million in fiscal 1984, could be tied to the Congressional budget action and move rapidly through Congress without adequate debate. To stave off that possibility, a number of the groups — including AMA, AHA, the Health Industry Manufacturers Association, the American College of Cardiologists, and the Federation of American Hospitals — have sent letters to Congress urging that the pacemaker bill not be enacted too hastily.

Specifically, the Heinz and Wyden proposal would reduce the two DRGs associated with cardiac implantation by 15% and the two associated with reimplantation by 30%. Surgical fees would be reduced by 25%, but Medicare would pay 100% of the allowable charge, thus eliminating the current 20% patient coinsurance for the procedure.

Called the *Medicare Pacemaker Reform and Patient Protection Act*, the measure would also reduce the frequency of pacemaker monitoring. Current provisions, which are under review by the Health Care Financing Administration, permit about 12 transtelephonic monitoring sessions and from four to eight office visits per patient

per year. Heinz and Wyden propose to reduce the monitoring frequency by 50% and reimbursement levels for transtelephonic monitoring by 25%.

They are also calling for the establishment of a national pacemaker registry under the auspices of the FDA. FDA ran a demonstration of this concept for several years but dropped it for lack of funding. Estimated annual cost of the registry is \$1 million a year.

Wyden and Heinz are pushing their measures as an alternative to the administration's proposals to reduce Medicare spending. Congressional health committees have until late September to recommend some \$400 million in Medicare cuts called for in Congress' fiscal 1984 budget resolution. Preliminary discussion in both the Senate Finance Committee, where Heinz is a member, and House Commerce health subcommittee, where Wyden serves, generated some interest in the pacemaker limits, though both panels are awaiting a Congressional Budget Office review of the legislation.

In discussions before the Commerce health subcommittee, Heinz and Wyden claimed that no further study of their proposal is needed. They say it is substantiated by the findings of a Senate Committee on Aging investigation about a year ago that concluded that "hundreds of millions of Medicare dollars are being wasted" in the \$2 billion-a-year pacemaker industry.

This year, Heinz and Wyden estimate that about 150,000 Americans will have a pacemaker implanted. About 80% of these will be Medicare beneficiaries. About 30% will be receiving a pacemaker that replaces an earlier one. Rarely, will Medicare collect on warranties covering some of the replaced pacemakers, they say.

The two legislators also contend that the reductions they propose are justified because: hospitals pay \$3,000 to \$5,000 for pacemakers which cost only \$600 to \$900 to manufacture; the Veterans Administration (V.A.) pays about 17% less per pacemaker than Medicare; surgical fees range from \$750 to \$2,500 and are based on earlier, riskier implant operations.

The Reagan Administration does not support the Heinz and Wyden proposal, however, and HCFA Administrator Carolyn Davis, Ph.D., told the Commerce Subcommittee the legislation is unnecessary because the DRG system itself will

give hospitals an incentive to hold down pacemaker prices.

Davis added that the proposed reductions would limit access to pacemakers for some patients and "unfairly penalize" hospitals that have held down pacemaker costs. An HCFA task force on pacemaker reimbursement concluded that the V.A. pays less for pacemakers than Medicare because the V.A. purchases and warehouses the devices — something Medicare doesn't want to do for its larger beneficiary population, she reported.

Meanwhile, Congress has been hearing from the health industry.

American Medical Association Executive Vice President James H. Sammons, M.D., in a letter to Senate Finance Committee Chairman Robert Dole (R-KS) said the Heinz and Wyden provisions are "of major concern because of their impact on the availability and quality of care for Medicare beneficiaries in need of pacemakers, and because of the precedent they would establish for redefining the practice of medicine through the Medicare law."

"The regulations establishing the new system have not even been published for public comment," the letter continued. "We do not believe, therefore, that it would be well advised to start manipulating the system before it has even been structured."

The letter also said the reductions in reimbursement to surgeons improperly assumes that "all surgeons implanting pacemakers base their fees on more expensive medical technologies no longer utilized." And it warned that reduced payments to surgeons could lead to a "significant reduction in the rate of assignment for this procedure." The AMA supported the concept of a National Pacemaker Registry.

In a similar vein, the American College of Cardiologists wrote several Congressmen that the legislation assumes that "less costly pacemakers will be as effective as the more expensive models and that current monitoring is excessive. The medical validity of the assumptions has not been determined," said the ACC which along with the American Heart Association is developing guidelines on pacemaker implants.

The American Hospital Association urged Congress to "wait until after the DRG prices are published and evaluated before considering any change in payment rate."



HIMA complained that "the proposal" reaches far beyond pacemakers. "It assaults the integrity of the Medicare prospective payment system."

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### Limits Called For On Medicare Patient Payments

A Medicare advisory panel wants to limit to about \$900 a year the share of Medicare-covered hospital and physician bills paid by Medicare patients.

Medicare premiums would increase to about \$420 a year, but beneficiaries would no longer need to buy private insurance to supplement their Medicare, the panel believes.

The new plan, approved by the Social Security Advisory Council, would establish new limits for both medical (Part B) and hospital (Part A) services for beneficiaries who agree to increases of about \$250 a year in what they now pay for Part B. Beneficiaries who couldn't or wouldn't pay the increased premium would have to forego Part B coverage and would have new hospital cost-sharing exceeding what most beneficiaries now pay.

The Council has asked its staff to come up with a proposal for aiding those for whom the new premium would be a hardship, however, and some members are beginning to raise other questions about the plan.

The Council, chaired by former Indiana Gov. Otis Bowen, is appointed every four years to look at the Social Security program. This year it was instructed to focus on Medicare. Its recommendations were due by July 1, but the Council has been granted a three-month extension.

All the Council's recommendations are subject to further revision and some, such as the new co-payment structure and changes in the physician claims assignment process, are still being fleshed out. Their implementation would require legislative action that is not considered likely in this Congress.

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### "Emergency" Centers Claim AMA Foul

An organization that represents about a quarter of the nation's 800 or so freestanding emergency medical care centers has asked the Federal Trade Commission (FTC) to force the American Medical Association to rescind or modify its guidelines for the operation of the emergency centers.

The Dallas-based National Association of Freestanding Emergency Centers (NAFEC) on July 13

filed a complaint asking for an FTC investigation of the guidelines, alleging that they violate antitrust law.

The guidelines were part of an AMA Board of Trustees report that was amended and approved in June by the House of Delegates. The House had called for the development of operational criteria for the rapidly-growing freestanding emergency centers at its Interim 1982 meeting.

John J. Coury, M.D., Chairman of the AMA Board, immediately denied the allegations in the complaint:

"The guidelines approved by our House of Delegates last month were just that — guidelines," he said. "The AMA House of Delegates does not issue mandatory regulations, and the guidelines it adopted do not in any way constitute restraint of trade."

Dr. Coury also pointed out that ethical standards approved by the House state clearly that "in matters strictly of a policy nature, a physician who disagrees with the position of the American Medical Association is entitled to the freedom and protection of his point of view."

The "operational criteria" the report suggests to identify those centers which "can truly offer a full range of emergency medical services" deal with hours, staffing, equipment and referral arrangements of the center.

In its complaint NAFEC, which prefers guidelines it has developed for its members, claimed the AMA guidelines are "overbroad" and would make freestanding emergency centers the "equivalent of acute trauma centers." The complaint also charges that "because the AMA wields tremendous political influence, the guidelines constitute unreasonable restraint of trade and will impede the growth of FECs and deny the public cost-effective care."

The NAFEC disagrees particularly with AMA criteria requiring the centers calling themselves freestanding "emergency" care centers: to stay open 24 hours a day, seven days a week; to include registered professional nurses on their staffs; to meet certain equipment requirements, including on the premises lab capability and two monitor defibrillators; and make emergency medical services available regardless of the patient's ability to pay.

In contrast, the NAFEC guidelines call for the facility to remain open at least 70 hours seven days a week; maintain "appropriate" nursing and

ancillary staff; maintain some emergency equipment, not including on-the-premises lab services; provide free care only in life-threatening situations.

The NAFEC complaint was announced at a Washington press conference by NAFEC President Drennon Stringer, M.D., a Dallas physician who has just opened his third emergency center. Dr. Stringer said NAFEC objects to the AMA criteria because they are more stringent than those of the American College of Emergency Physicians and than those that the Joint Commission on Accreditation of Hospitals applies to some classes of hospitals. NAFEC is working with the Ambulatory Accreditation Association for Health Care to develop its own accreditation program for freestanding emergency centers.

Stringer accused the AMA of trying to bring "undue economic hardship on the freestanding centers by "raising our operating costs and destroying our competitive edge." He added that AMA's fears of patient misunderstanding of the use of the term "emergency" by the clinics are unfounded. Only 2% of the freestanding emergency clinics' patients have life-threatening conditions, he claimed.

At least four states have attempted recently to regulate the freestanding centers and NAFEC has opposed final regulations in all the states. Stringer said NAFEC fears the "AMA pronouncement" on freestanding emergency care will be a "green light" for other regulation.

The NAFEC complaint was filed with FTC Commissioner James Miller and the Bureau of Economics. FTC is under no obligation to act on the complaint.

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#### Medicare Physician Fee Freeze

Despite the concerns of the American Medical Association and fears that Medicare patients may be hurt in the process, Congress is seriously considering a Reagan Administration proposal to freeze Medicare payments to physicians.

The powerful Senate Finance Committee has already approved a more limited version of the proposal and a House Commerce health Subcommittee has hinted that it might move in the same direction if it could find some way to assure that physicians wouldn't simply bill their patients for fee increases not picked up by Medicare.

Under the original proposal, the economic index that governs increases in the maximum pay-

ments Medicare will make for a particular service would have been frozen for a year at the 1982/83 level. However, the index is updated on July 1 each year and rose on schedule this year by 5.85%. Any Congressional action now will have to roll the index back to its 1982/83 level.

The freeze on physician fees is tempting to Congressional committees charged with reducing Medicare expenditures because it is estimated to save \$700 million in 1984 — more than enough to meet the Congressional budget resolution's mandate that Medicare expenditures be reduced by \$400 million in 1984. However, the budget-makers also say Medicare savings should not come from increased costs to patients. It is the fear that the freeze on payments to physicians may lead to cost increases for patients that raises questions about its approval.

The Finance Committee avoided the questions raised in the budget resolution directive by adopting its curbs on Medicare payments to physicians as a financing mechanism for a health plan for the unemployed instead of as a budget proposal. Several Finance members objected to the tactic but Finance Chairman Robert Dole (R-KS) reportedly wanted to expose the paradox of creating a new benefit program for one class of Americans while Congress is engaged in cutting benefits to another group.

The Finance plan also contains a significant modification. Whereas the Administration's proposal would have applied to both the "customary" and "prevailing" fee limits, the Finance proposal would freeze only the "prevailing" fee limits. The practical effect of that change is to limit the freeze only to physicians charging Medicare's maximum limits rather than to all physician fees. As a result, Finance estimates savings from the proposal at only \$325 million in FY 84 and about \$1.5 billion over the following two years. The remainder of the \$1.8 billion required to finance the health plan for the unemployed would come from increases in the Medicare Part B premiums.

The House Commerce Health Subcommittee is also looking at limits on Medicare payments to physicians. However, unlike Finance, the Commerce panel is considering the proposal only as part of its budget package.

Commerce subcommittee Chairman Rep. Henry Waxman (D-CA) said he believes it "is only natural that consideration should be given to controls on payments to physicians — a group



which has so far largely avoided any sacrifices in the effort to reduce the federal deficit." But he added that although changes are needed in Medicare's physician reimbursement policies, the limits proposed by the Administration "are really no more than back-door increases in costs to the elderly."

During a day-long hearing July 18, Waxman and other subcommittee members repeatedly asked witnesses whether the freeze on Medicare payments to physicians would result in increased costs to Medicare patients.

Health Care Financing Administration head Carolyn Davis, Ph.D., defended the freeze on grounds that Medicare physician expenditures "have been increasing by highly inflationary rates. In 1982, they increased 21% to more than \$13 billion, and they are expected to rise another 19% in 1983.

Davis also maintained that freezing payments to physicians would probably have only a "minimal" impact on patients' costs. The HCFA administrator also noted that the American Society of Internal Medicine has agreed to go along with a one-year freeze and that the average physician salary was \$86,000 in 1981. Medicare assignment rates have been growing as competition heats up among physicians, she told the subcommittee, so "I don't think physicians necessarily will raise their fees."

Jerald Schenken, M.D., Vice Chairman of the American Medical Association's Council on Legislation, disagreed. "The AMA believes it is inappropriate for the government to freeze professional payments under Medicare while at the same time allowing payments "to other suppliers of goods and services to continue without a similar freeze," the Omaha pathologist asserted.

Furthermore, he observed, the freeze could be a "disincentive to physician acceptance of Medicare." In 1982, 54.2% of total charges to Medicare patients and 52.8% of all Medicare claims were assigned, with physicians identifying inadequate Medicare reimbursement levels as a primary reason for not taking assignment. By increasing the "disparity" between what Medicare pays and what other patients are charged, the freeze could lead to changes in assignment rates and "increased costs to beneficiaries."

The Administration has suggested other budget cuts including increases in the Medicare Part B

deductible and premiums, both of which are supported by the AMA.

Both Waxman and Rep. Ron Wyden (D-OR) scolded the AMA for favoring increases in Medicare patients' costs while opposing a ceiling on physicians fees. "We all have to make sacrifices but your testimony doesn't give the impression we're all in it together," Wyden charged.

Dr. Schenken replied that while the AMA would prefer no changes in Medicare, the program's budgetary problems necessitate cuts, and increases in Part B premiums and deductibles "create the least problems" for patients, physicians and Congress. He added that the AMA thinks the increased copayments should be offset by a new catastrophic cost benefit in Medicare.

Waxman and Wyden also pressed HCFA and AMA witnesses to cooperate in the development of directories of physicians accepting Medicare assignment.

The Finance Committee has approved a requirement that Medicare contractors develop directories identifying physicians who take at least 25% of Medicare claims on assignment. HCFA has developed a directive that would implement a similar plan as of July 1, 1984.

Davis said the HCFA directive is being reviewed by Department of Health and Human Services lawyers to make sure it doesn't embroil the department in litigation similar to an AMA and Florida Medical Association suit filed in 1978 to prevent release of a list of Medicare payments to all physicians. A Federal District Court in Florida ruled that the list was invasion of physicians' privacy. She added that identifying physicians taking assignment "part of the time" may not be particularly helpful to Medicare patients.

The Florida suit alleged that the list of physicians and salaries developed by HHS was inaccurate and Dr. Schenken expressed concern about accuracy in the proposed Medicare directories. He added that patients might erroneously assume that physicians with assignment rates lower than the 25% cutoff do not take assignment on any cases.

Waxman further prodded Dr. Schenken to promise that physicians will not increase fees to patients if Congress freezes Medicare payments to physicians.

Dr. Schenken responded that AMA President Frank Jirka, M.D., has asked physicians to "use

reasonable restraint" in their fee increases and said the AMA will continue to encourage restraint. But he added that Medicare fee levels are already inadequate and said the final determination of fees is strictly up to the physician and his patient.

Waxman's panel is also looking at alternatives to the Administration's freeze proposal. Possibilities suggested by committee members and other witnesses include: combining the freeze with a mandate that physicians treating Medicare patients accept all claims on assignment; applying Medicare limits to only those physicians where there is a surplus supply; mandating assignment or freezing payment only for certain services such as surgical procedures; moving to negotiated fee schedules; developing financial and administrative incentives to physician assignment; paying physicians on the basis of time involved in treatment; integrating the physician payment for hospital services into the hospital diagnosis related group (DRG); and developing Medicare PPOs.

Despite the Finance Committee's action on physician reimbursement limits and the Commerce Committee's interest, final approval by Congress is far from assured. The Finance plan would have to be approved by the Senate and House concurrence for its use as funding for health insurance for the unemployed would be required. It is also possible the President would veto such a plan.

If not approved as funding for a health plan for the unemployed, a limit on physician reimbursement would once again become a budget issue subject to complaints it does not meet the directive that Medicare cuts not affect beneficiaries. Both the House and the Senate have postponed until late September the deadline for committees to complete action on 1984 budget recommendations.

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#### **Baby Doe — Again**

If the government has its way, hospitals will once again be required to post warnings that it is illegal to withhold medical treatment from handicapped newborns.

After months of deliberation, the Department of Health and Human Services this month unveiled its new version of the controversial "Baby Doe" rule that was struck down in court this spring.

Critics of the rule charge that nothing substantial has changed. Instead of requiring the posting of the notice in delivery, maternity, and intensive care wards, the rule requires that the notice be posted in nursing stations and the rule-making period for public comment has been extended to 60 days, instead of the previous 15 days.

"The changes don't obviate our concerns with the substance of the rule," said Elizabeth B. Derter, an attorney representing the American Academy of Pediatrics, which successfully challenged the original rule. "The actual rule has not changed at all," she said.

Only the new rule's long preamble and appendix make concessions to physicians' concerns. "(Federal law) does not compel medical personnel to attempt to perform impossible or futile acts or therapies. It does not require the imposition of futile therapies which merely prolong the process of dying, such as a child born with anencephaly or intra-cranial bleeding," it says. Nor does it interfere with routine medical judgments about care of premature or low birth weight infants, the rule says.

However, a rule is needed when non-medical, or "subjective," choices arise, it says. Judgments not to treat an infant because of race, physical disability, or mental handicaps are not medical judgments, it adds. "Any judgment that a person is not worthy of treatment is not a medical judgment, even if made by physician."

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#### **Pregnant Women: Don't Use Accutane**

Physicians across the country will be receiving "Dear Doctor" letters reminding them that the acne drug Accutane should not be used in pregnancy. Women who use the drug should also rely on an effective contraceptive, according to manufacturer Hoffman-LaRoche.

Three women who took the drug recently delivered infants with severe central nervous system defects. The birth defects, which are similar to those seen in lab animals, will not cause the drug to be taken off the market.

Hoffman-LaRoche also plans to issue special warning stickers to pharmacies and revise warnings on package inserts.

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#### **AIDS Hotline**

The federal government's new AIDS Hotline (800-342-AIDS) will expand from three to eight lines to handle the average of 8,000 to 10,000 calls



it receives each day, according to the Public Health Service.

An estimated 90% of all callers ask about the symptoms or method of transmission of disease. Others give details of their sex lives, or proclaim AIDS as God's punishment of homosexuals. Twenty-four hours a day, callers can hear a 3-minute tape recorded description of the disease. Between 8:30 a.m. and 5:30 p.m. (EST), Public Health Service employees will answer a caller's specific questions.

The expanded service will more than double the capacity of the PHS to handle calls. But Secretary of Health and Human Services Margaret M. Heckler advises callers who are unable to get through to keep trying. "I intend to provide these people with all the help and information we can," she said.

The government is also sending an 8-page "AIDS Information Bulletin" updated the first and third Monday of each month to local health departments. The bulletin will describe Public Health Service investigations into AIDS cause and treatments. Additionally, a 2-page leaflet called "Facts About AIDS" will be available to the public. Copies of the bulletin and leaflet are available by writing the Public Health Service, Office of Public Affairs, Room 721H, 200 Independence Avenue, SW, Washington, D. C. 20201.

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### AIDS Threatens Blood Supply

Several months ago, a young West Coast man who was a frequent donor of blood appeared at his physician's office showing several classic symptoms of AIDS. Within days, plasma manufacturer Travenol Labs traced the path of his plasma and discovered that 187 vials of the material were already on hospital shelves. A quickly-launched recall of the product soon placed the material safely in company storage.

Plasma manufacturers say that this incident proves the effectiveness of monitoring, record-keeping, and tracking. But elsewhere across the country, where a total of 17 hemophiliacs have died from AIDS thought to have been transmitted through blood, there is concern that this type of voluntary recall system puts hemophiliacs at unnecessary risk.

In July, a Food and Drug Administration advisory panel met in Washington to hear manufacturers' and hemophiliacs' concerns. Their conclusion: the federal government should not step

in and demand a recall on old or suspect plasma. The FDA will continue to advise manufacturers, if needed, but will not mandate action.

"We just can't justify a recall that could dry up the plasma supply, based on our current information," said panel member Louis W. Sullivan, M.D., President and Dean of Morehouse School of Medicine. Added June Osborne, M.D., Professor of Pediatrics and Medical Microbiology at the University of Wisconsin, "If we recommend a resounding federal stance, it may be a long time before we can reassess and undo it. Science is moving too fast to warrant a firm federal position."

So until the appearance of an AIDS screening test for plasma, the characteristics of the disease — a long incubation period, high mortality rate, lack of apparent infectious organisms, and minimal therapy — will continue to produce uneasiness in both hemophiliacs and manufacturers.

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### Pertussis Vaccine

The diphtheria-tetanus-pertussis (DPT) vaccine was cast into the national limelight last year with the airing of the controversial television documentary "DPT: Vaccine Roulette." Footage of writhing, brain-damaged children sent thousands of parents to their pediatricians, questioning the need for the mandatory shot. Some parents, seeing the program, reasoned that the risks of the vaccine outweigh its benefits.

A new Public Health Service report now recommends investigation and eventual improvement of the vaccine, with compensation for vaccine-injured persons in the meantime.

The government report, unveiled last month before a hearing of the Senate Committee on Labor and Human Resources, recommends:

- establishing risk-benefit discussions between parents and physicians;
- monitoring incidence and severity of vaccine side effects;
- reporting all side effects to manufacturers and the Centers for Disease Control;
- accelerating the development and testing of improved vaccines.

The new report's urging of government support — through grant contracts and NIH vaccine evaluation units — may accelerate the search for a better vaccine. Three commercial vaccine manufacturers are now attempting to acquire a new Japanese acellular vaccine, or at least the vac-

cine's manufacturing process; others are considering U.S. development of a similar product. In the future, manufacturers hope to produce more specific and highly purified proteins for use as immunogens.

Federal compensation for vaccine-related injuries is also suggested by the report. Supporters of a compensation program have long argued that the public, not the individual, benefits from mandatory vaccination programs, so the public should be prepared to pay for any injuries an individual may experience. But for the first time, the PHS recommends that the Department of Health and Human Services consider vaccine compensation.

A compensation bill — to be introduced by Sen. Paula Hawkins (R-FL) in September after agreement between the American Academy of Pediatrics and a parents group called Dissatisfied Parents Together — already waits on the legislative horizon. One provision, already agreed upon, can be expected: a simple, speedy, inexpensive, and no-fault federal program. The bill should ensure that the award of compensation will not depend on identification of the vaccine manufacturer, proof of negligence by the doctor, or a defect in the vaccine itself, parents and pediatricians have agreed.

Yet there is still substantial debate over specific points in the bill. Parents believe compensation should be available regardless of how long ago the injury occurred; pediatricians believe there should be a time limit on injuries suffered after vaccination. Parents urge mandatory reporting on CDC of all side effects, replacing the current passive and voluntary system; pediatricians should bear the primary financial burden of the system; pediatricians will recommend that the costs of the program be raised by a surcharge on the vaccine, thus indirectly taxing the vaccine recipient.

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#### **Video Terminals Not Harmful**

In many instances, video display terminals (VDTs) have been introduced into workplaces with little attention to human factors, illumination engineering, or industrial and organizational psychology, a National Academy of Sciences research panel has concluded.

"We strongly recommend that manufacturers and users of VDT equipment draw upon available scientific data in designing and selecting

VDT work and equipment," the panel's report says.

As the use of VDTs have increased — an estimated 10 million terminals are now used by clerical workers, typesetters, computer programmers, writers, editors, and air traffic controllers — so have worker complaints. Blurred vision, tired eyes, muscular aches and stress are the most common VDT-associated health problems.

But it is the condition of employment — such as poor lighting, repetitive tasks, and a poorly designed workstation — that may prompt worker complaints, the panel said.

Based on the panel's review of current literature for the National Institute of Occupational Health and Safety, they concluded: "It seems likely that with proper design of VDT display characteristics, workplace lighting, workstations, and jobs, VDT work need not cause any unique visual problems."

The common visual fatigue associated with VDT use seems similar to the temporary fatigue associated with other close visual tasks. However, some visual problems are unique to VDTs: oculomotor discomfort, produced by frequent focusing and back-and-forth glances between written and visual text at different distances; a phototropic response, causing the operator's eyes to move away from the display image towards reflected images on the screen; and strain resulting from VDT screens positioned at angles or distances incompatible with bifocal eyeglasses.

The lighting in most offices is designed for work at a vertical level; VDT screens, however, are horizontal and develop glare. Special filters, while reducing glare, may also reduce the quality of luminance of the display image. So filters should be used only as a supplement, not a replacement, for proper lighting, the panel suggested.

It is "highly improbable" that the radiation emitted by VDTs causes cataracts, the panel concluded. Animal and human studies show that the levels of radiation required to produce cataracts are thousands to millions of times higher than levels of radiation emitted by VDTs. Common fluorescent lights, sunshine, and other sources of radiation are more hazardous, according to the panel.

Most complaints are reported by workers who must perform single tasks all day, receiving little



pay and few responsibilities, in jobs that stifle initiative, creativity, and a sense of achievement. Stress may be influenced by work complexity, the size of the workload, computer system breakdowns and processing delays, and threat of job loss. VDT health problems are caused by jobs "in which the work is not organized with the worker in mind, and are not inherent to VDT technology and software."

It is too soon to establish the mandatory standards for VDT design and use already adopted by several European countries, the panel advised. Rigid standards could stifle technological improvements, moreover, simplified specifications can be "misleading and seductively comforting," it said.

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### Abortion Funding Cuts Sought

Supporters of a bill that would bar federal funding of abortion are searching for the 218 congressional signatures needed to get the legislation out of various committees onto the House floor.

If their petition drive is successful, the bill will bypass the four full committees and several subcommittees where it is now languishing.

The bill, HR 618, would impose a ban on federal funding for all abortions except those to save a pregnant woman's life; bar federal funds for insurance policies if they cover abortions; withhold federal aid from hospitals that fail to provide food or medical treatment for handicapped newborns; and encourage states to enact new anti-abortion laws.

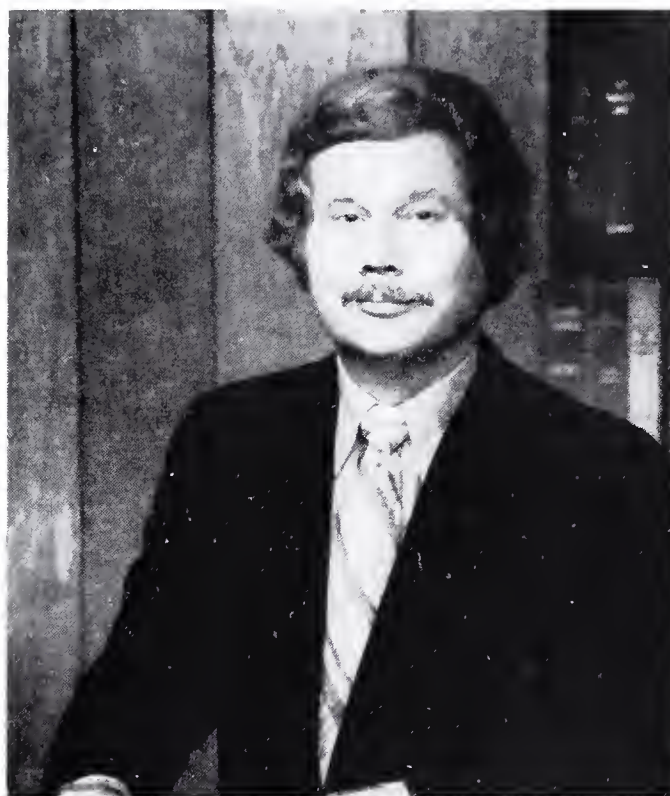
The AMA, in a recent statement to the chairmen of the four committees where the bill awaits action, expressed its opposition to any legislation that uses health care funding mechanisms to deny medical care. The insurance provision of the bill would deny medical care to those served by federal agencies such as the Department of Defense or Indian Health Services or those on federal programs such as Medicaid, CHAMPUS, or Federal Employees Health Benefit Plan.

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### DR. WEBER ELECTED SECRETARY

Dr. James R. Weber of Jacksonville was elected by the Council of the Arkansas Medical Society to succeed the late Dr. Elvin Shuffield as secretary of the Arkansas Medical Society.

Dr. Weber is a Family Physician practicing in Jacksonville. He has been active in organized medicine on the county, State and national level.



JAMES R. WEBER, M.D.

His early years were spent in Nebraska. He was graduated from high school at Holdredge, Nebraska, as class Salutatorian. He received a Bachelor's Degree in General Agriculture from the University of Nebraska. While at the University, he received the AkSarBen Scholarship for academic achievement and was a member of Alpha Zeta Honor Society. He was also a member of the Farmhouse Social Fraternity.

Dr. Weber was graduated from the Nebraska College of Medicine in Omaha in 1957. He received the Eben J. Carey Award in Anatomy for attaining the highest grades in his freshman medical school class. He served a rotating internship at Madigan Army Hospital in Tacoma, Washington.

From 1958 through 1961, Dr. Weber served with the United States Air Force Medical Corps as a general medical officer.

Dr. Weber was in a Fellowship in Obstetrics and Gynecology at the University of Arkansas Medical Center at Little Rock in 1961.

He is a Diplomate of the American Board of Family Practice, having been recertified for the second time in 1982. He is a Charter Fellow of the American Academy of Family Physicians.

Dr. Weber has been very involved with Family Practice and the Academy of Family Physicians. He is a past president of the Arkansas Academy of Family Physicians, he has served as chairman

of the Scientific program committee of the American Academy of Family Physicians, and he has been an alternate delegate from Arkansas to the American Academy of Family Physicians since 1980. He is a member of the Board of the Arkansas Academy of Family Physicians. He is an Assistant Clinical Professor of the Department of Family and Community Medicine at the University of Arkansas College of Medicine, a position he has held since 1970. The second and third year Family Practice residents from the University Medical School rotate through his office and hospital practice as part of the residency program.

Dr. Weber has represented the Pulaski County Medical Society in the House of Delegates of the Arkansas Medical Society for a number of years. He has served the Arkansas Medical Society as chairman of the Committee on Medical Legislation since 1979. He is a member of the Board of Trustees of the Arkansas Medical Society Pension Trust, is a member of the Society's Executive

Committee, and is a member of the Board of Trustees of the newly-created Arkansas Medical Society State Legislative Fund. He was elected to the position of Secretary of the Society in July 1983.

In addition to his Medical Society and Academy memberships, his participation in medical organizations include the Southern Medical Association and the American College of Cryosurgery.

Dr. Weber also serves on the Board of Directors of the Arkansas Foundation for Medical Care. He is a member of the Board of Trustees of Arkansas Blue Cross-Blue Shield and a member of the Medical Services Review Committee of that organization. He was chief of staff at Rebsamen Memorial Hospital in 1970 and 1979.

Dr. Weber was president of the Arkansas Polled Hereford Breeders Association in 1970-71.

He is married to the former Cynthia Weintraub and has five children — Jodi, Todd, Dana, Amy and Allen.

# keeping up

## Category 1 Continuing Medical Education Programs Available in Arkansas

### EVALUATION OF THYROID FUNCTION AND DYSFUNCTION

Presented by Leslie J. DeGroot, M.D., Professor of Medicine, University of Chicago, *November 15, 7:00 p.m.*, Educational Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### EMERGENCY MEDICINE UPDATE

Presented by Marvin Leibovich, M.D., *November 17, 7:15 a.m. to 5:30 p.m.* and *November 18, 8:00 a.m. to 5:30 p.m.*, Shuffield Auditorium, Baptist Medical Center. Seventeen hours Category I credit. Fee: physicians \$150; nurses, paramedics and other health related personnel \$50.

### ATLS CONFERENCE

Presented by Pat Osam, M.D., *December 3-4, 8:00 a.m. to 6:00 p.m.*, UAMS Education II Building, Little Rock. Sponsored by UAMS. Sixteen hours Category I credit. Registration fee: \$375.

### PARENTERAL NUTRITION SUPPORT OF THE HOSPITALIZED PATIENT

Presented by Krishnan Sirran, M.D., Department of Surgery, University of Chicago Medical Center, *December 15, 7:00 p.m.*, In-Service Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I credit.

#### EL DORADO — AHEC-SOUTH ARKANSAS

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category 1 of the Physician's Recognition Award of the American Medical Association.



## KEEPING UP

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

*Internal Medicine Conference*, first, second and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Behavioral Sciences Conference*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m. (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

### FAYETTEVILLE — AHEC-NORTHWEST

*Medicine Teaching Conference*, each Saturday, 7:30 a.m. to 8:30 a.m., Washington Regional Medical Center, Baker Conference room.

### FAYETTEVILLE — VA MEDICAL CENTER

*Pathology Conference*, third Thursday, 3:00 p.m., Conference Room.

*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.

*Mortality Conference*, second Thursday, 3:00 p.m., Conference Room.

*Peer Exchange*, November: "Cardiology," Joseph Franciosa, M.D.; December: "Infectious Disease," Robert Bradsher, M.D.

### JONESBORO — AHEC-NORTHEAST

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.

*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

*Monthly Perinatal Conference*, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*AHEC Weekly Lecture Series*, each Friday, 12:00 noon, #1 Stroud Hall, St. Bernard's Annex Building.

*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Arkansas Methodist Hospital CME Conference*, last Friday, 7:00 a.m., AMH, Paragould.

### LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Second Floor Classroom.

*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Physicians' Second Floor Classroom.

*Primary Care Seminar and Case Presentation*, each Wednesday, 8:15 a.m., ACH Clinic Conference Room.

*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Second Floor Classroom.

*Infectious Disease Conference*, second Wednesday, 12:00 noon, Second Floor Classroom.

*Problem Case Conference*, each Thursday, 12:00 noon, Second Floor Classroom.

### LITTLE ROCK — BAPTIST MEDICAL CENTER

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.

*Emergency Medicine Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1. CANCELLED IN NOVEMBER.

*Case of the Month*, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

*General Internal Medicine Conference*, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

*Renal Conference*, fifth or last Wednesday each month, 12:00 noon to 1:00 p.m., Conference Room #1. (When there are four Wednesdays in the month, conference will be on fourth Wednesday and there will only be one Case of the Month Conference.)

*Morbidity and Mortality Conference*, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

*Surgery Conference*, second, third, fourth and fifth Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.

*Cardiology Conference*, fourth Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.

*Cardiopulmonary Resuscitation Course*, fourth Thursday, 7:00 p.m. to 1:00 a.m., Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

### LITTLE ROCK — ST. VINCENT INFIRMARY

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E155, Education Wing.

*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

*Gynecology Conference*, second Tuesday, 5:30 p.m. to 6:30 p.m., Radiology Classroom S1025.

*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S1169, Laboratory.

*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E159, Education Wing.

*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.

*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Room S1169, Laboratory.

*Cardiology Conference*, fourth Thursday, 12:00 noon to 1:00 p.m., Room E155, Education Wing.

### LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

*Grand Round Series*, each Thursday, 12:00 noon to 1:00 p.m., Child Study Center Auditorium.



## PERSONAL AND NEWS ITEMS

### **DR. CADWALLADER**

Dr. Chester S. Cadwallader has joined Drs. Diane Lepore and Robert Nelson for the practice of Physical Medicine and Rehabilitation at 1120 Marshall in Little Rock.

### **DR. GOODIN SPEAKS**

Dr. W. H. Goodin was a guest speaker at a recent meeting of the Batesville Kiwanis Club.

### **DR. LAHR LOCATES**

Dr. Charles H. Lahr has joined the Millard-Henry Clinic in Russellville for the practice of Obstetrics and Gynecology.

### **DR. WILSON TRUSTEE**

Dr. Steve Wilson of Fort Smith has been named a trustee for the Crawford County Memorial Hospital in Van Buren.

### **DR. SHORTS**

Dr. Stephen D. Shorts has joined Drs. J. Wayne Buckley and Lloyd Langston at the Pine Bluff Ear, Nose and Throat Clinic at 1408 West 43rd in Pine Bluff.

### **DR. SMITH IS SPEAKER**

Dr. Robert J. Smith of Pine Bluff presented a paper entitled "Unusual Cases of Gastrointestinal Bleeding (four gastric and two small leiomyomas)" to the Surgical Section of the National Medical Association on August 1. The following day, he presented the Sinkler Memorial Lecture to the Surgical Section of the Association; that paper was entitled "A Personal Experience with Breast Disease in One General Surgeon's Practice."

On August 5, in Little Rock, Dr. Smith was the luncheon speaker for the Summer Enrichment Program for Minority Students at the University of Arkansas Medical Center.

### **DR. ELLIOTT NAMED FELLOW**

Dr. Robert Elliott of Searcy was named a Fellow of the American College of Radiology during the organization's recent annual meeting.

### **DR. PIERCE LOCATES**

Dr. Trent Pierce has opened his office for the practice of Family Medicine at 228 Tyler in West Memphis.

### **DR. REDMAN CHIEF**

Dr. John Redman of Little Rock has been named chief of staff at Arkansas Children's Hospital. He succeeds Dr. W. T. Dungan.

### **DR. FINFRECK**

Dr. Bill Finfreck has recently established his

medical practice with the Eureka Springs Clinic. He specializes in Family Practice.

### **DR. OGLESBY PRESENTS WORKSHOP**

Dr. Nita Oglesby of Heber Springs recently presented a workshop on breast self examination at the Cleburne County Hospital.

### **CLAY COUNTY GAINS PHYSICIANS**

Two doctors have joined the Kneibert Clinic Medical Group in Clay County. Dr. Gary Dausmann, a Family Physician, is a native of Morton, Illinois. Dr. Mark Bauman, an Internist, is a native of Stoutland, Missouri.

### **DARDANELLE HOSPITAL OFFICERS**

Dr. Jerry Hodges is the newly elected chairman of the Board of Directors of Dardanelle Hospital.

Dr. James Maupin is the new Chief of Staff at Dardanelle Hospital; he succeeds Dr. Gene D. Ring.

### **DR. LAWRENCE PROMOTED**

Dr. Frank Lawrence of Russellville has been promoted to Colonel in the United States Army Reserve. Dr. Lawrence is commander of the 180th Station Hospital at Camp Robinson.

### **DR. YOUNG ON TASK FORCE**

Dr. Michael Young of Prescott has been appointed by the Governor to a task force on child abuse.

### **DR. IRWIN ELECTED**

Dr. Raymond Irwin of Pine Bluff has been elected to the Board of Directors of National Credit Corporation.

### **DR. WILLS**

Dr. Paul Wills of Fort Smith spoke to the Van Buren Rotary Club on his recent trip to Russia. Dr. Wills was a member of a group of 150 American doctors who got an official tour of the Communist nation.

### **DR. CRUMPLER APPOINTED**

Dr. Joe Crumpler of Russellville has been appointed liaison fellow of the Commission on Cancer Program at St. Mary's Hospital. The appointment was by the cancer department of the American College of Surgeons.

### **DR. GREEN CHAIRMAN**

Dr. Horace Green of Pine Bluff is the newly elected chairman of the Arkansas Chapter of the American Academy of Pediatrics.

### **DR. HIGLEY LOCATES**

Dr. George B. Higley has opened an office in



the Medical Plaza in Blytheville. He specializes in Orthopaedic Surgery.

**DR. WALSH LOCATES**

Dr. Benjamin J. Walsh, a Family Physician, has opened an office at 310 North Alabama in Crossett.

**DR. STEADMAN NAMED**

Dr. Hunter Steadman of Bentonville has been named Chief of Staff at Bates Memorial Hospital.

**DR. HOLZNER**

Dr. Charles Holzner has joined Dr. Merrill J. Osborne in Blytheville for the practice of Internal Medicine.

**DR. MARTINDALE SPEAKS**

Dr. Joe Martindale of Benton recently spoke to a United Methodist Youth group on alcohol and drug abuse.

**DR. SCOTT IN BATESVILLE**

Dr. John Scott has joined Dr. Robert Baker at the Batesville Family Practice Clinic.

**DR. BLUE**

Dr. Leon Blue gave a presentation on the function of the heart at a recent meeting of the Searcy Optimist Club.

**DR. WESTWOOD LOCATES**

Dr. John J. Westwood has opened an office in Plainview for General Practice.

**HEALTH PROGRAM**

St. Mary-Rogers Memorial Hospital Department of Education sponsored a program on health problems of school-age children. Dr. Richard Knight of Rogers spoke on the asthmatic and hyperactive child; Dr. Barry Allen of Rogers spoke on diabetes in young people; and Dr. Michael Reese, chairman of St. Mary's Emergency Services Committee, spoke on first aid.

**DR. RODGERS PRESIDENT**

Dr. Charles Rodgers of Little Rock is the new president of the Arkansas Academy of Family Physicians. Other officers are Dr. Robert Etherington of Eureka Springs, president-elect; Dr. Cal Sanders of Camden, vice president; and Dr. Les Anderson of Lonoke, secretary-treasurer.

**DR. SULLIVAN IN OZARK**

Dr. Christopher Sullivan has joined Drs. Tom Jefferson, Christina Jefferson, John Smith and Les Berenson at Ozark Specialties Clinic. Dr. Sullivan specializes in Internal Medicine.

**DR. MOORE CHAIRMAN**

Dr. John Henry Moore of El Dorado is the 1984 general chairman of the Union County United Way Drive.

**DR. DANIEL SPEAKS**

Dr. Frank Daniel of DeQueen spoke to the Rotary Club on health care in Russia and China and his general impressions of those countries.

Dr. Daniel was a member of a group of Arkansas physicians who participated in a medical exchange program.

**MACHINE DONATED**

The Washington County Medical Society donated a buffing/shampooing machine to Home-Maid, Inc., a division of Life Styles. Life Styles is a residential living and training facility for developmentally disabled adults.

**DR. MCKENZIE HONORED**

Dr. Jim McKenzie of Hope was honored with a reception for his fifty years of service to the community.

**DR. SMOOT**

Dr. John Smoot was recently recognized for twenty years of service to the Radiology Department of Randolph County Memorial Hospital and Randolph County Medical Center. A reception was held in his honor.

**DR. PREWITT ELECTED GOVERNOR**

Dr. Taylor A. Prewitt of Fort Smith has been elected Governor for Arkansas by the American College of Cardiology Board of Trustees. He will serve in the position for three years.

**DR. HARBIN LOCATES**

Dr. James Harbin has opened an office in the White River Medical Arts Building in Batesville. Dr. Harbin specializes in Family Medicine.

**DR. HUTSON JOINS CLINIC**

Dr. Sandy Hutson has joined Dr. Guy Ulrich at the Paris Clinic. Dr. Hutson specializes in Family Medicine.



**MARCH 21-24, 1984**

*Otitis Media Symposium and Fourth Annual Pediatric Infectious Disease Seminar.* Sponsored by the Department of Pediatrics, The University of Texas Health Science Center at Dallas, Southwestern Medical School. Las Vegas Hilton Hotel.

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For further information, contact Marian Troup, Seminar Coordinator, Department of Pediatrics, Southwestern Medical School, 5323

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**APRIL 12-15, 1984**

*Arkansas Medical Society—108th Annual Session.* Excelsior Hotel and Statehouse Convention Center, Little Rock.



## NEW MEMBERS

### **DR. LES M. BERENSON**

Dr. Berenson has joined the Franklin County Medical Society. He was born in Chicago, Illinois.

Dr. Berenson received his Bachelor of Science degree in 1975 from Tulane University in New Orleans, Louisiana. In 1980, he received his medical degree from the Tulane University School of Medicine. His internship and residency in the "primary care program" were with the University of Washington in Boise, Idaho.

Before moving to Arkansas, Dr. Berenson practiced for eight months in Oroville, Washington.

Dr. Berenson has joined Ozark Specialties Clinic in Ozark for the practice of General Medicine.

### **DR. SHERYL L. DAVIS**

Dr. Davis, a new member of the Garland County Medical Society, was born in Louisville, Kentucky.

In 1973, she received a Bachelor of Arts degree in chemistry from the University of Louisville. She is a 1977 graduate of the University of Louisville School of Medicine. Dr. Davis served her internship at Methodist Hospital in Dallas and her residency at Parkland Hospital in Dallas. She has practiced for two years in Hot Springs.

Dr. Davis specializes in Anesthesiology. Her office is located at 101 Ladue Drive in Hot Springs.

### **DR. PAUL F. ROBINSON**

Dr. Robinson, a native of Albion, New York,

is a new member of the Pulaski County Medical Society.

Dr. Robinson received an A.B. degree from Cornell University in Ithaca, New York. He is a 1981 graduate of the University of Arkansas College of Medicine.

From March to July 1981, he was with Riegler Health Services in Little Rock. From 1981 to 1983, he trained in Pediatrics at Arkansas Children's Hospital.

Dr. Robinson began practice with the Redfield Health Clinic in July 1983. He practices General Medicine.

### **DR. JAMES M. SHEPPARD**

Dr. Sheppard has joined the Union County Medical Society. He is a native of El Dorado.

He served with the United States Navy from 1966 to 1971.

Dr. Sheppard received a Bachelor of Arts degree in 1971 and a Master of Science degree in 1975 from the University of Arkansas at Fayetteville. He is a 1980 graduate of the University of Arkansas College of Medicine. His Family Practice training was with the Area Health Education Center in El Dorado.

Dr. Sheppard specializes in Family Practice. His office is at 416 North Newton in El Dorado.

\* \* \* \*

### **Resident Members**

#### **DR. WILLIAM H. LANEHART**

Dr. Lanehart has joined the Lonoke County Medical Society. He is a graduate of the Louisiana State University Medical Center in Shreveport where he is now completing his residency.

Dr. Lanehart plans to practice Pathology in Lonoke County upon completion of his training.

#### **DR. ROBERT G. VALENTINE, JR.**

Dr. Valentine has joined the Pulaski County Medical Society. He is a graduate of the University of Arkansas College of Medicine. He is an Anesthesiology resident at the University of Arkansas Medical Center.





## OBITUARY

### DR. JOE F. RUSHTON

Dr. Rushton of Magnolia died September 4, 1983. He was born March 23, 1906, in Emerson.

Dr. Rushton was a graduate of Ouachita Baptist College at Arkadelphia and a 1932 graduate of the University of Arkansas College of Medicine. He received further training at Tulane and served his residency at Charity Hospital in Shreveport.

Dr. Rushton began practice at Magnolia in 1934. He had served as president of the Columbia County Medical Society. Dr. Rushton was a member of the Fifty Year Club of the Arkansas Medical Society and the American Medical Association. He also held memberships in the Southern Medical Association and the Southwest Surgical Congress. Dr. Rushton was a member of the Arkansas Caduceus Club. He had served as a member of the Board of Directors of the Medical Education Foundation for Arkansas since it was established in 1961. He had served eighteen years as a member of the Board of Trustees of the Baptist Medical Center. He had also served three years on the Arkansas State Hospital Board.

Over the years, Dr. Rushton had been very active in business, civic and church activities in his hometown and the State. He was a past president and executive board member of the DeSoto Area Council of the Boy Scouts of America. During his presidency, the Council acquired the Camp DeSoto grounds in El Dorado. He was the recipient of several scouting awards, including "Service to Boys," "Silver Beaver," "Order of Arrow," and "Good Shepherd."

He was actively involved in education — having served as president of the Magnolia School Board and secretary of the Arkansas Board of Higher Education.

Dr. Rushton's business activities included banking and the broadcasting field. He founded radio station KBMA in Magnolia and station KRBB-TV in El Dorado and served as the first president of the Magnolia Broadcasting Company. He was a former member of the Board of Directors of the First National Bank of Magnolia.

Civic activities of Dr. Rushton included serving as president of the Magnolia Chamber of

Commerce and as the first chairman of the United Fund for Columbia County. He was a charter member of the Magnolia Rotary Club and a recent recipient of the Paul Harris Fellowship Award from Rotary International.

Dr. Rushton was a member of Central Baptist Church and served eighteen years as departmental director of the Sunday school.

Dr. Rushton is survived by his wife, Elizabeth Rushton, and two daughters — one of whom is Dr. Linda Rushton of Magnolia.



## RESOLUTIONS



### DR. ROBERT G. VALENTINE, SR.

WHEREAS, the members of the Pulaski County Medical Society note with sincere sorrow the recent death of their colleague, Robert G. Valentine, Sr., M.D., and

WHEREAS, he had been a loyal member of the Society for twenty-one years and was held in the highest esteem for his devotion to his specialty of anesthesiology; and

WHEREAS, Dr. Valentine made a lasting contribution to the citizens of this area by his long years of service as chief of anesthesiology at Memorial Hospital;

#### BE IT THEREFORE RESOLVED:

THAT, this resolution be made a part of the permanent archives of this Society; and

THAT, a copy of this resolution be given to Dr. Valentine's family as an expression of our heartfelt sympathy; and

THAT, a copy be forwarded to the Journal of the Arkansas Medical Society for publication.

Adopted:

Pulaski County Medical Society

Executive Committee

August 17, 1983



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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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## A Comparison of the Old and New Antibiotics

Daniel R. Hinthorn, M.D.\*

### Abstract

Eight new beta lactams have recently become available for general use. At least six others are expected in the near future.

Two ampicillin-like antimicrobials, bacampicillin and cyclacillin are completely absorbed after oral administration. Despite their increased serum concentrations, neither has been shown to be more effective than ampicillin or amoxicillin, the established standards. When the price of the newer agents becomes competitive, they would appear to be useful choices.

Mezlocillin and piperacillin have greater effectiveness than carbenicillin or ticarcillin against several bacteria including enterococcus, some serratia and *P. aeruginosa*. The sodium load of the newer drugs is less than one-half that of carbenicillin or ticarcillin. Clinical studies have not shown mezlocillin or piperacillin to be any more effective than carbenicillin when the infecting pathogens are sensitive to each.

Each third generation cephalosporin is so different from the other members of the group that little can be done to remember them as a group. Each has good activity against serratia, and some activity against *P. aeruginosa*. Moxalactam and cefoperazone have better overall activity against gram-negative bacilli, but moxalactam has less activity against gram positive cocci. Cefoperazone is more potent against many *P. aeruginosa* than moxalactam, but 20% of *P. aeruginosa* are resistant to cefoperazone. Cefoperazone is less potent against other enteric bacilli. Cefotaxime has marginal activity against *P. aeruginosa*. Both moxalactam and cefotaxime have unique effectiveness in meningitis caused by enteric bacilli, but should not be used for meningitis caused by *S. pneumoniae* nor group B streptococci.

The number of paper describing new antibi-

otics of all classes has steadily increased during the last 40 years. In the early 1950's, approximately 50 newly recognized antibiotics were described yearly. By 1960, more than 100 were described each year, and by 1970, more than 200 new antibiotics were reported annually. During the last six months of 1982 one journal that describes basic and clinical studies of new antibiotics reported on more than 30 new beta-lactam antibiotics in that single six-month period.<sup>1</sup> The antibiotics which have recently been approved for clinical use are only a few that should become available in the near future.

This paper will consider some of the newer antibiotics that have been approved by the Food and Drug Administration for general use, and compare these to the standard, older choices. Our considerations must inevitably include not only the antibacterial spectrum of these new drugs, but also some kinetics including tissue penetration, the propensity for producing adverse reactions, and the distinctive advantages if such has been shown in comparative studies.

### Ampicillin-Like Penicillins

Two newer ampicillin-like penicillins have been recently released. Both have an antibacterial spectrum identical to ampicillin or amoxicillin. These drugs are cyclacillin (Cyclapen-Wyeth), and bacampicillin (Spectrobid-Roerig).

The ampicillin class of penicillins have added activity against six microbes that were not effectively treated by penicillin: enterococcus, *H. influenzae*, *E. coli*, *Proteus mirabilis*, *Salmonella sp.* and *Shigella sp.* Recently each of these, with the possible exception of the enterococcus, have been recently showing varying resistance to ampicillin.

Both bacampicillin and cyclacillin are completely absorbed from the gastrointestinal tract compared with 30% absorption for ampicillin and 80% absorption for amoxicillin. Bacampicillin is an ester of ampicillin and after absorption is converted to ampicillin. On the other

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hand, cyclacillin has a similar spectrum to ampicillin but is approximately 25% less potent. Peak drug concentrations of bacampicillin are twice those of ampicillin and slightly greater than those of amoxicillin. Cyclacillin concentrations may be four times as high as those of ampicillin, and up to one and one-half times the concentrations of amoxicillin. Advantages of bacampicillin and cyclacillin include the potential for causing less diarrhea or skin rash because of the better absorption. Resulting higher serum concentrations may enhance tissue penetration. Other distinctive advantages for these two agents appear to be nonexistent when compared to amoxicillin.<sup>2,3</sup> No study yet confirms either to be superior to amoxicillin. The price to the pharmacists of these newer agents has been significantly greater than ampicillin or amoxicillin. As the cost of bacampicillin and cyclacillin approach the cost of amoxicillin, these newer drugs would become reasonable alternatives.

#### Broad-Spectrum Penicillins

Five broad-spectrum penicillins are available which have activity against organisms resistant to the ampicillin-like penicillins. The two established agents are carbenicillin and ticarcillin. The three new agents are mezlocillin (Mezlin-Miles), azlocillin (Azlin-Miles), and piperacillin (Pipracil-Lederle). Carbenicillin and ticarcillin are active against *E. coli*, *Enterobacter species*, acinetobacter, *Proteus mirabilis*, many *Pseudomonas aeruginosa*, and the majority of *Bacteroides fragilis*. Approximately one-half of the enterococci are susceptible. Other resistant strains include klebsiella and serratia. Ticarcillin is more potent than carbenicillin against sensitive organisms. At therapeutic dosages of 30-40 gms of carbenicillin daily, or 20-24 gms of ticarcillin daily, the efficacy of these two agents is similar. Both are disodium salts and have 5-6 milliequivalents of Na per gram. This may be undesirably large in patients with congestive heart failure or renal failure. Patients who receive more than 20 gms/day of either agent may have the potential for interference with ADP induced platelet aggregation. Bleeding during therapy has been reported but is seldom a clinical problem. If either of these is used as monotherapy, the patient should be monitored to detect the development of resistance during therapy.

The three new ureidopenicillins have an expanded antimicrobial spectrum. In addition to

being effective against the pathogens inhibited by carbenicillin, mezlocillin and piperacillin are active against most enterococci, some serratia, and a few Klebsiella. Piperacillin and azlocillin seem to be more potent *in vitro* than carbenicillin or ticarcillin against *P. aeruginosa*. The MIC 90 of each against *P. aeruginosa* has been reported as follows: carbenicillin >100 ug/ml, ticarcillin 50 ug/ml, mezlocillin 27 ug/ml, azlocillin 10 ug/ml, and piperacillin 8 ug/ml.<sup>5</sup> Azlocillin is distinct in being potent against *P. aeruginosa*, but in exerting inferior activity against microbes other than pseudomonas.

Dosing of azlocillin, mezlocillin, and piperacillin is similar. Patients with serious infections should be given 16-18 gms/day. Mezlocillin, azlocillin, and piperacillin are monosodium salts having 2 mEq sodium/gm, which would reduce by 60% or more the sodium administered per day compared to the use of carbenicillin.

Prospective controlled trials comparing these newer agents with older therapies have shown no difference in cures. Two studies have been reported in neutropenic leukemics with fever. One compared piperacillin versus ticarcillin, both used in combination with amikacin. Piperacillin with amikacin did not show a difference in outcome from ticarcillin plus amikacin.<sup>6</sup> Another study in neutropenic leukemics with fever compared piperacillin plus amikacin compared to carbenicillin plus amikacin. Again there was no therapeutic difference. Piperacillin with amikacin did result in more nephrotoxicity, while carbenicillin with amikacin resulted in a more hypokalemia.<sup>7</sup>

A study of monotherapy with mezlocillin compared to carbenicillin in a prospective controlled, randomized study involving post-operative surgical patients showed no difference between mezlocillin and carbenicillin.<sup>8</sup> A variety of post-surgical infections were treated, and similar numbers of each type of infection were treated with mezlocillin or with carbenicillin. Patients in these subgroups responded equally well. In another open study comparing piperacillin with carbenicillin as single agent therapy of serious infections of 107 patients caused by sensitive pathogens, there was no difference in cure.<sup>9</sup>

At present, even though the *in vitro* studies indicate the ureidopenicillins are more potent than carbenicillin or ticarcillin, no study indicates that the newer agents enhance patient outcomes. It



seems prudent to base the antimicrobial choice on sensitivity testing of the bacteria isolated, and choose any agent to which the microbes are sensitive. Polymicrobial infections may be a setting in which the newer agents with their broader spectrums would be useful, particularly if several pathogens are sensitive to a single agent simultaneously. A word of caution is in order. For empiric therapy of life threatening or very serious infections, an aminoglycoside should be added to any choice of antibiotics. Whether this is mandatory is the subject of current research protocols.

### Cephalosporins

The question "When should cephalosporins be used in therapy of infections?" is intriguing since many do not consider cephalosporins to be the drug of choice for any infection. This is a common statement despite the wide use of cephalosporins as if they were drugs of choice. At present, I believe an honest appraisal indicates several clinical settings in which the cephalosporins are the drugs of choice. 1) In certain penicillin allergic patients when bactericidal activity is desired, depending upon the site of infection and the possible etiology. 2) When a polymicrobial infection is encountered, these may exert useful activity against each pathogen. 3) Occasionally a cephalosporin can be used against an infecting pathogen that previously would have required a more toxic aminoglycoside. 4) Prophylactic perioperative use of cefazolin and cefoxitin has been shown to reduce infectious morbidity after certain intraabdominal and pelvic operations.<sup>10</sup> 5) Some newer cephalosporins are effective against multiply resistant hospital acquired pathogens. Thus, they may be alternatives to amikacin in treatment of nosocomial infections. 6) Two of the newer cephalosporins, moxalactam (Moxam-Lilly) and cefotaxime (Claforan-Hoechst-Roussel) penetrate into the cerebrospinal fluid and are effective in gram-negative bacillary meningitis. Certainly they will not replace penicillin for pneumococcus or meningococcus.

### First Generation Cephalosporins

The spectrum of the first generation cephalosporins is essentially identical among agents, and includes many organisms sensitive to the penicillins including *Streptococcus pneumoniae*, *Streptococcus pyogenes*, *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella sp.* and *Proteus mirabilis*. These drugs include cephalothin (Keflin-Lilly),

cephalexin (Keflex-Lilly), cephapirin (Cefadyl-Bristol), cephadrine (Anspor-Smith, Kline & French, Velosef-Squibb), and cefazolin (Ancef-Smith, Kline & French, Kefzol-Lilly). Since these agents have similar antibacterial spectra, the choice among them must be based on other factors. No study shows any of these agents to be more or less effective than the others. Therefore, cefazolin has become the agent of choice because (1) the half life is longer than other first generation cephalosporins, allowing 8 hours dosing instead of 4 to 6 hours; (2) cephalazolin gives the highest blood levels after a given dose, and penetrates into infected tissues as well as or better than other first generation drugs; (3) dosing intervals of 8 hours reduces the cost to the patient and reduces the nursing attention required.

### Second Generation Cephalosporins

The second generation cephalosporins enhance the antimicrobial spectrum of the first generation agents by adding activity against *Hemophilus influenzae*. Unfortunately for clinicians trying to remember these, there are major differences between the second generation agents. Cefamandole (Mandol-Lilly) is effective against *Hemophilus influenzae*, those that produce beta lactamase and those that do not. Cefamandole also is active against 75% of *Enterobacter sp.* An important omission from activity of cefamandole is the lack of significant activity against *B. fragilis*. Cefoxitin (Mefoxin-MSD) is also effective against *Hemophilus influenzae*, but is less active than cefamandole. Cefoxitin is active against several other bacteria not susceptible to cefamandole. Cefoxitin is effective against most *Proteus sp.*, *Proteus mirabilis* and indole positive proteus. Cefoxitin is also active against 75% of *Serratia marcescens*. It has excellent activity against the penicillinase producing *Neisseria gonorrhoeae*. In fact a single 2 gram dose of cefoxitin cures 96% of patients treated for gonococcal urethritis. In contrast to cefamandole, cefoxitin is active against *Bacteroides fragilis*. A recent multicenter cooperative study has shown that 92% of 750 clinical isolates of *B. fragilis* were susceptible to cefoxitin, similar to the 94% susceptible to clindamycin.<sup>11</sup> Not one of the newer cephalosporins currently being tested has *B. fragilis* activity so potent as cefoxitin.

On the other hand cefoxitin is a cephamycin, so named because it has a methoxy group attached

to the beta lactam ring. This group stabilizes the beta lactam ring, making it virtually indestructible by the enzyme beta lactamase. However, the methoxy attachment renders cefoxitin relatively less effective, but still clinically useful, against the staphylococcus, streptococcus, and pneumococcus. In contrast, moxalactam, a third generation cephalosporin which also has the methoxy radical is significantly less active against gram positive cocci.

Both cefoxitin and cefamandole are useful in a variety of clinical settings. One peculiar usefulness of cefoxitin is the fetid foot syndrome. Foot ulcers in diabetics are often colonized with enteric bacilli, gram positive cocci, and anaerobes. The clinical response with cefoxitin has been outstanding.<sup>12</sup>

Soon to be released is a third second generation cephalosporin called cefuroxime (Zinacef-Glaxo). This agent is similar to cefamandole.

### Third Generation Cephalosporins

The third generation cephalosporins are active against two organisms not generally inhibited by the first generation cephalosporins, *Serratia sp.* and *Pseudomonas aeruginosa*. Third generation agents are effective against *H. influenzae*. An even greater number of clinically important differences are found among the third generation than between the cefoxitin and cefamandole.

Moxalactam (Moxam-Lilly), cefotaxime (Claforan-Hoechst), and cefoperazone (Cefobid-Pfizer) are each effective against most *Serratia sp.* However, against *P. aeruginosa* efficacy differs remarkably from one drug to another. Cefotaxime is potent against only 30% of *P. aeruginosa*. Cefoperazone may be the most potent of these three against approximately 80% of *P. aeruginosa*. The remaining 20% of *P. aeruginosa* are quite resistant to cefoperazone. Moxalactam is effective against 90% of *P. aeruginosa*, and is effective against some nosocomially acquired multiply resistant pathogens. Each of these drugs is usually effective against *E. coli*, *Klebsiella sp.*, some *Enterobacter sp.*, *Proteus mirabilis* and indol positive proteus. Moxalactam, because of the methoxy radical, is less effective against staphylococci, streptococci, or pneumococci. The minimum inhibitory concentrations range from 1 to 6 ug/ml, ten to one hundred fold greater than for cephalosporins generally. In infection of tissues in which moxalactam penetrates to rela-

tively high concentrations, infection with these microbes may be effectively treated. However a first or second generation agent would be a better choice. In comparison, cefotaxime has greater activity against the gram-positive cocci than does moxalactam. Cefoperazone has potent gram positive activity, but it tends to be less effective against other enteric pathogens such as *E. coli*, klebsiella, or proteus.<sup>13</sup> However, the sensitivities of these pathogens are such that cefoperazone can be used effectively.

The half-life of cefotaxime averages 1.1 hours, of cefoperazone 1.9 hours, and of moxalactam 2.3 hours. Half-life is important when choosing the optimal dosing interval for treating patients with serious infections. Thus cefotaxime for serious infections should be dosed at 4 or 6 hour intervals, cefoperazone at 6 hour intervals, and moxalactam at 6 or 8 hour intervals. The name Cefobid would seem to imply that a 12-hour dosing interval would be appropriate. Such would be appropriate for cefoperazone and probably for any of these agents used to treat highly susceptible pathogens in mild infections of otherwise healthy patients. Serious *P. aeruginosa* infections or infections in the compromised patient should not be treated with cefoperazone on a 12-hour dosing interval. Usually such patients would be best served by using an aminoglycoside concomitantly.

Cefotaxime is metabolized so that the half life does not increase remarkably in the presence of renal failure. Cefoperazone is excreted in the bile, and similarly its half life does not increase remarkably in renal failure. Both of these have half lives of approximately 2.5 hours in complete renal failure. Moxalactam, on the other hand, does have an increase in half life with renal failure to about 19 to 25 hours. Thus the moxalactam dose or the dosing interval must be changed as the renal function diminishes.

An interesting phenomenon can occur in patients who are being treated with moxalactam, cefoperazone, or cefamandole and who ingest alcoholic beverages. Because the imidazole ring attached to the thiazolidine ring has antitubercular activity, patients treated with any of these should be cautioned against drinking any alcoholic products for two days after therapy.

The third generation cephalosporins may alter the gastrointestinal tract flora significantly resulting in reduction in the microbial production



of vitamin K. Supplemental vitamin K should be given orally, or the prothrombin time should be measured at least once or twice weekly. Other adverse reactions may include suprainfections with either enterococcus or *Candida albicans*.

### Selecting From Among These Agents

The logical question arises regarding the clinical indications for selecting a third generation cephalosporin. In several settings third generation cephalosporins may be agents of choice. Patients infected with organisms resistant to the first or second generation cephalosporins may be treated optimally with a third generation cephalosporin instead of an aminoglycoside. Alternatively an extended spectrum penicillin, ticarcillin, mezlocillin or piperacillin may be useful. The differences in antibacterial spectra between the extended spectrum penicillins and the second and third generation cephalosporins has been narrowing yet the differences can be clinically useful. Seriously ill patients who have severe infections usually require combination therapy with either a second or third generation cephalosporin and an aminoglycoside, or an extended spectrum penicillin with aminoglycoside. The latter combination is more likely to be synergistic than the former. Serious pseudomonas infections should not be treated with any single agent alone. Moxalactam or cefotaxime have been dramatically effective in the treatment of patients with meningitis caused by enteric bacilli. They seem now to be a better choice than chloramphenicol. However, meningitis caused by pneumococcus or meningococcus should be treated with penicillin or chloramphenicol, never moxalactam. *Hemophilus influenzae* meningitis caused by beta lactamase resistant strains may now be treated with moxalactam instead of chloramphenicol.

Avoiding the third generation cephalosporins is important (1) in the routine treatment of gram positive coccal infections involving staphylococcus, streptococcus, pneumococci, or enterococci. (2) Gram-negative enteric infections caused by organisms sensitive to established agents such as ampicillin or cephalazolin should be treated with the latter. (3) None of the third generation cephalosporins should be used for prophylaxis of perioperative infections, (4) nor as single drug therapy for serious *P. aeruginosa* infections, (5) nor as single agent therapy of septic shock. (6) Moxalactam should be avoided in the therapy of men-

ingitis caused by *S. pneumoniae*, *S. agalactiae* or *Listeria monocytogenes*.

Cross comparison among the cephalosporins, penicillins and other drug classes fails to indicate the relative niche for each. The third generation cephalosporins have not been shown any more effective than cefazolin or cefoxitin for infections caused by susceptible pathogens. It is not known how cefotaxime or moxalactam compares to sulfamethoxazole-trimethoprim (Bactrim, Septra) for *H. influenzae* lung infections. Whether moxalactam or cefoperazone is superior to or inferior to ticarcillin, mezlocillin or piperacillin for *P. aeruginosa* pneumonia remains to be clarified. Cefotaxime would be inferior since 70% of *P. aeruginosa* are resistant. Urinary tract infections caused by the Enterobacteriaceae respond equally well to moxalactam, to cefotaxime, and to cefazolin and cefoxitin. Pseudomonas urinary tract infections respond less favorably to the third generation cephalosporins than do infections caused by enteric bacilli. Carbenicillin has established effectiveness for prostatitis, but other broad spectrum penicillins and third generation cephalosporins may not be so effective. In the treatment of intra-abdominal infections, clindamycin or cefoxitin would be expected to be better choices than third generation cephalosporins since both clindamycin and cefoxitin are effective against a greater number of *B. fragilis*. Finally, one third of pseudomonas osteomyelitis, a very difficult therapeutic situation, has failed to be cured when treated with moxalactam.

The many newer antimicrobials have expanded greatly the spectrum of bacteria that can be inhibited by a single agent. Except in meningitis or in treating resistant pathogens, comparative studies have not yet delineated which of the newer penicillins or cephalosporins should replace the older established agents. Multiple antimicrobial therapy which includes an aminoglycoside seems likely to negate any potential differences between these newer agents and the older established agents that might be shown if single drug therapy were compared.

### REFERENCES

1. Subject index: Antimicrobial Agents and Chemotherapy, 22:v-xix, 1982.
2. Gold, J. A., Hegarty, C. P., Deitch, M. W., and Walker, B. R.: Double-blind clinical trials of oral cycloacillin and ampicillin. Antimicrobial Agents and Chemotherapy, 15:55-58, 1979.
3. Finegold, S. M., Gentry, L. O., Mogabgols, W., Camp-

- bell, S. C., and Skatrud, J.: Controlled comparative trial of bacampicillin and amoxicillin in therapy of bacterial infections of the lower respiratory tract. *Reviews of Infectious Diseases*, 3:150-153, 1981.
4. Chodosh, S.: Comparison of bacampicillin twice daily and ampicillin four times daily in treatment of acute exacerbations of chronic bronchitis. *Reviews of Infectious Diseases*, 3:140-149, 1981.
5. Hoogkamp-Korstanje, J. A. A., Westerdal, N. A. G.: Activity and synergy of ureido penicillins and aminoglycosides against *Pseudomonas aeruginosa*. *Infection*, 10:S 257, 1982.
6. Wade, J. C., Schimpff, S. C., Newman, K. A., Fortner, C. L., Standiford, H. C., and Wiernik, P. H.: Piperacillin or ticarcillin plus amikacin. *American Journal of Medicine*, 71:983-990, 1981.
7. Winston, D. J., Ho, W. G., Young, L. S., Hewitt, W. L., and Gall, R. P.: Piperacillin plus amikacin therapy V. Carbenicillin plus amikacin therapy in febrile, granulocytopenic patients. *Archives Internal Medicine*, 142: 1663-1667, 1982.
8. Lewandowski, A., Orlowski, T., and Weuta, H.: Mezlocillin and carbenicillin: A clinical comparison of serious systemic infections in surgical patients. *Infection*, 10:S 121, 1982.
9. Marier, R. L., Sanders, C. V., Faro, S., Janney, A., Williams, W. W., Derks, F., and Aldridge, K. E.: Piperacillin v. carbenicillin in the therapy for serious infections. *Archives Internal Medicine*, 142:2000-2005, 1982.
10. Stiver, H. G., Forward, K. R., Livingstone, R. A., Fugere, P., Lemay, M., Verschelden, G., Hunter, J. D. W., Carson, G. D., Beresford, P., and Tyrrell, D. L.: Multicenter comparison of cefoxitin versus cefazolin for prevention of infectious morbidity after nonelective cesarean section. *American Journal of Obstetrics and Gynecology*, 145:158-163, 1983.
11. Tally, F. P., Cuchural, G. J., Jacobus, N. V., Gorbach, S. L., Aldridge, K. E., Cleary, T. J., Finegold, S. M., Hill, G. B., Iannini, P. B., McCloskey, R. V., O'Keefe, J. P., and Pierson, C. L.: Susceptibility of the *Bacteroides fragilis* group in the United States in 1981. *Antimicrobial Agents and Chemotherapy*, 23:536-540, 1983.
12. Le Frock, J. L., Blais, F., Schell, R. F., Carr, B. B., Jacobs, R. L., Wirth, C. R., Kowalsky, S. F., and Tillotson, J. R.: Cefoxitin in the treatment of diabetic patients with lower extremity infections. *Infections in Surgery*, 2:361-370, 1983.
13. Kayser, F. H.: Microbiological studies on cefoperazone. *Clinical Therapeutics*, 3:24-33 (supplement), 1980.





# Prophylactic Antibiotic Therapy For Endophthalmitis with Intraocular Lens Implantation

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## Abstract

This study describes a rationale and clinical approach for the prevention of post surgical endophthalmitis in patients receiving lens implantation following extracapsular cataract surgery. In the series, 1071 cases were treated with no case of endophthalmitis resulting. Culturing of eyes revealed the preoperative presence of multiple organisms. Topical antibiotics reduced, but failed to eliminate, all of the ocular flora. Subconjunctival gentamycin and topical irrigation of gentamycin were used in 1071 cases. Intracameral gentamycin was used in addition in fifty (50) cases with no observable toxic corneal problems. Chemosis was the most common problem associated with subconjunctival injections. However, this problem was greatly minimized by reducing the dosage of subconjunctival gentamycin when intracameral gentamycin was also used.

## Introduction

Endophthalmitis following cataract surgery with intraocular lens implantation is a dreaded complication. While many ophthalmologists use topical and systemic antibiotics prophylactically, there appears to be little uniformity of practice. The current FDA intraocular lens study undertakes only to note if antibiotics, topical or systemic, were used.<sup>20</sup> One manufacturer reports on 200,000 IOL cases as follows: "Seven percent (7%) of the investigators report to culture preoperatively. Sixty-one percent (61%) use antibiotic prophylactics. In the clinical investigation fifty-nine percent (59%) of the investigators who used antibiotics reported that the method was topical, while twenty-three percent (23%) reported to use systemic antibiotics, and an additional eighteen percent (18%) reported to use both." The overall rate of endophthalmitis reported in this instance was 0.09%.<sup>21</sup>

The incidence of endophthalmitis following routine cataract surgery has been variously reported to be between 0.0% and 3.5%. Much debate exists regarding the pathogenesis and prevention of endophthalmitis. Studies with phage typing have shown a causal relationship between

host organisms and endophthalmitis.<sup>16</sup> Allen has advocated certain preoperative topical antibiotic programs emphasizing the importance of topical chloromycetin and polymixin B.<sup>1,2</sup> Locatcher-Khorazo reported zero incidence of endophthalmitis in a series of 7,453 eyes rendered culture negative prior to cataract surgery.<sup>15</sup> Recently many have begun to use subconjunctival antibiotics in an effort to reduce the hazard of endophthalmitis following intraocular lens implantation. Recent studies with aminoglycosides give important clues as to route of administration and dosages necessary to obtain reasonably effective intraocular inhibitory concentrations. As a result, some surgeons do use subconjunctival antibiotics prophylactically. Gentamycin and tobramycin concentrations in the aqueous humor following injection of 10 mgm subconjunctivally has been measured.<sup>8,9</sup> Concentration in aqueous humor has been shown to reach and exceed the important concentration of 4 mcg/ml at one hour post injection. Gentamycin has been shown to inhibit 86% of pseudomonas aeruginosa strains at 4 mcg/ml.<sup>5</sup> However, intramuscular gentamycin in subnephrotoxic levels fails to provide adequate aqueous inhibitory concentrations for many pathogens in primary aqueous.<sup>8,9</sup> Common parenteral routes of antibiotic administration have been shown to produce subminimal to minimal inhibitory concentrations of drugs (aminoglycosides) in vitreous humor. However, extracapsular surgery theoretically should not violate the vitreous and simple aqueous concentrations should be more pertinent. With this background in mind, the following study was done.

## Material and Methods

All of the IOL admissions (1071) of a single ophthalmologist (NN) were reviewed for the period of January 1975 through August 1983 at two separate hospitals.\* The surgeon's preoperative, operative and postoperative care varied minimally in the first 1021 cases. The route of antibiotic administration at the time of surgery changed for the last 50 cases. All cases were admitted to the hospital between 36 hours and 48

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hours prior to surgery. Preoperative cultures of the conjunctival fornix were obtained. All specimens were obtained with a sterile loop picking up lacrimal fluid deep in the conjunctival fornix, avoiding the skin and lashes. Following the cultures, topical antibiotics were instituted. A proprietary solution of Neomycin sulfate 3.5 mgm/ml, polymyxin B sulfate 10,000 units/ml, dexamethasone 0.1%\*. drops were used topically q i. d. (usually six treatments total prior to surgery). Chloromycetin-polymyxin B\*\* ointment was ordered at bedtime (total of two doses). Beta-dyne surgical prep and lash trimming was employed. Argyrol 20% drops were used in the prep to precipitate mucous, and the eye was copiously irrigated with Ringers Lactate solution. Plastic adhesive drapes were taped to the lids, and split. Following insertion of the speculum, the lash margins were securely taped with 1/4 inch Steri-strips 360 degrees to guard against exposed eyelashes or skin margins. Gentamycin 2 mgm/ml was used to irrigate the eye at the start and completion of the procedure, avoiding direct intracameral use. Extracapsular cataract surgery was performed without rupture of the posterior lens capsule. Cortex was irrigated with filtered balanced salt solution or balanced salt solution with glutathione solution. Lens insertion was accomplished under microfiltered air or hyaluronate. A wide limbal based flap was used in all cases. Running nylon suture 10-0 was used for the corneal closure. A 7-0 collagen was used for the conjunctival closure. All cases in the first group (1021 cases) received 15 mgm gentamycin subconjunctivally at the end of surgery. Also, a subconjunctival steroid injection was used (betamethasone sodium phosphate 1.5 mgm plus betamethasone acetate 1.5 mgm). The collagen suture was removed on the second postoperative day.

The most recent group (50 cases) varied only in the use of antibiotics at the time of surgery. This group received gentamycin, 8 mcg/ml in the intracameral irrigation solution used for the lens removal. The volume of 20 cc to 50 cc of the intracameral irrigation solution was used, depending on the ease of each operation. The subconjunctival dosage of gentamycin was reduced from 15 mgm to 10 mgm in this group.

Of the total cases, 322 cases received additional parenteral antibiotic therapy for various medical conditions including genitourinary and pulmonary infections. Many received parenteral anti-

biotics because of feared pulmonary complications from general anesthesia. Drugs, dosages and routes of administration varied.

Eyes with clinically questionable post operative reactions received slit lamp biomicroscopy each day of hospitalization. Eyes clinically very clear received slit lamp biomicroscopy as a minimum at the time of discharge on the second post operative day.

### Results

Out of 1071 preoperative cultures taken only from the lower fornix tear film, 404 were positive. Of these, seven percent (7%) were of the types generally regarded as pathogenic organisms. Occasionally, more than one organism was recovered from a single eye. All patients were judge on admission to be free of clinical ocular infection. Four patients harboring *Pseudomonas aeruginosa* were eliminated from the study and not readmitted until eye culture negative times three. One patient that was positive for *Pseudomonas aeruginosa* was reported post surgically and was not eliminated. One patient harboring *Staphylococcus aureus* asked to be discharged until culture negative. She remained culture positive on two subsequent admissions following negative outpatient cultures. She became discouraged and refused surgery altogether even under antibiotic coverage. Table I shows the organisms encountered and incidence of cultures obtained from 1071 preoperative eyes.

**Table I.**  
**Organisms Encountered and Incidence**  
**Preoperative Eye Cultures of 1071 Eyes**

<i>Organism</i>	<i>Number</i>	<i>Percent</i>
Staph epidermidis	225	21
Staph aureus	41	4
Staph citreus	1	<1
Diphtheroids	112	10
Strep viridans	2	<1
Indifferent streptococci	2	<1
Pneumococci	3	<1
Neisseria sp	1	<1
B subtilis	2	<1
A aerogenes	3	<1
P. vulgaris	5	<1
Ps. aeruginosa	5	<1
Esch. coli	1	<1
A faecalis	1	<1
Unidentified gram neg rod	5	<1
	404	



The first two hundred and twenty (220) eyes in the series were also cultured at the time of surgery following the full preparation. Only three positive cultures were recovered and these did not correspond to preoperative isolates. Two positive cultures were obtained in previously culture negative eyes. One staphylococcus epidermidis, one proteus species, and one unidentified gram negative rod were found.

Slit lamp examination on the second post operative day revealed the usual mild surgical iritis in 813 cases. One hundred one (101) eyes were judged to have moderate iritis, and 107 eyes were judged to have moderate to severe iritis. Only one case of sterile hypopion developed and was reported as an adverse reaction. This case responded nicely following paracentesis and almost total aspiration of the organized hypopion. The cultures were negative. Table II shows the degree and incidence of post surgical iritis.

The main disadvantage encountered with the use of subconjunctival gentamycin 15 mgm and the one-half mililiter suspension of steroid was the persistence of chemosis and conjunctival erythema. The degree of erythema and chemosis was estimated as follows: (mild), trace of lower fornix conjunctival erythema and/or edema; (moderate), macroscopically observable redness and/or conjunctival edema of the lower globe area; (severe), objectionable degree of redness of globe and/or roll of bulbar conjunctival edema observable even on lid closure. Table III gives the degree and number of cases of chemosis observed.

In severe cases, redness and edema of the bulbar conjunctivae was noted to persist as long as two weeks in certain cases. Exact figures are not available as to duration of observable conjunctival drug reaction. It was the surgeons clinical opinion that chemosis and/or erythema from genta-

mycin and celestone injections persisted only infrequently beyond three weeks.

**Discussion**

The difficulty of isolating and reporting upon a single variable in a clinical situation is well illustrated here and in the field of prevention of post surgical endophthalmitis. In this instance, however, the results of a single surgeon are reported upon. The parameters and technique varied little throughout the eight year time frame.

Despite the fact that no cases with clinical observable infections were included in the study, 404 culture positive eyes were identified. Meticulous aseptic technique, minimally atraumatic surgery, selected preoperative topical antibiotics, operative subconjunctival gentamycin and steroid, and attempted elimination of pseudomonas infected eyes, resulted in a zero incidence of bacterial endophthalmitis in 1071 eyes selected for extracapsular cataract surgery with lens implantation.

The post surgical problem encountered in this series seemed related to the use of subconjunctival gentamycin and steroid. Clinically significant conjunctival injection and chemosis were present in fifty-eight percent (58%) of the cases. Nine percent (9%) of the cases were judged to have a serious degree of conjunctival erythema and chemosis. All cases of drug induced chemosis and erythema cleared without sequellae, but some persisted as long as three weeks.

There appears to be no antibiotic or combination of antibiotics that will eliminate all the local flora in a thousand eyes. However, eyes known to harbor potential pathogens were successfully operated with no endophthalmitis resulting. It is emphasized that all but one case harboring pseudomonas aeruginosa were eliminated until culture negative times three. No case of proven bacterial endophthalmitis developed in the eight-year study.

**Table II.**

**Incidence and Severity of Post Surgical Iritis Following Extracapsular Cataract Surgery and Lens Implantation**  
1071 Cases

<i>Degree of Iritis</i>	<i>No. of Cases</i>
Mild Iritis	813
Moderate Iritis	107
Severe Iritis	106
Hypopion	1
Endophthalmitis	0

**Table III.**

**Degree of Erythema and Chemosis Following Subconjunctival Gentamycin and Steroid Suspension**

<i>Degree Present</i>	<i>In 1021 Cases</i>		<i>50 Cases</i>	
	<i>15 mgm Gentamycin</i>		<i>10 mgm Gentamycin</i>	
		<i>%</i>		<i>%</i>
Mild	430	42	32	64
Moderate	500	49	18	36
Severe	91	9	0	0

# Nonproprietary Name and Trade Name of Drugs

Neomycin sulfate 3.5 mgm/ml, polymyxin B sulfate 10,000 u/ml, dexamethasone 0.1% — MAXITROL

Chloromycetin-polymyxin B sulfate ointment — CHLOROMYXIN

Hyaluronate — HEALON

Balanced salt solution — BSS

Balanced salt solution with glutathione — BSS PLUS

## REFERENCES

1. Allen, H. F.: Prevention of postoperative endophthalmitis. Symposium: Postoperative Endophthalmitis. *Ophthalmology*, 85:386-389, 1978.
2. Allen, H. F., and Mangiaracine, A. B.: Bacterial endophthalmitis after cataract extraction. *Arch Ophthalmol*, 91:3-7, 1974.
3. Barza, M.: Factors affecting the intraocular penetration of antibiotics. *Scand J Infect Dis*, 14:151-154, 1978.
4. Baum, J. L., and Gullipalli, R.: Treatment of post-cataract bacterial endophthalmitis with periocular and systemic antibiotics and corticosteroids. *Trans Amer Acad of Ophthalmol and Otolaryngol*, 81:151-162, 1978.
5. Duncan, I. B. R., and Penner, J. L.: Comparative activity of tobramycin and gentamycin against pseudomonas, proteus and providencia species. *CMA Journal*, 113:29-31, 1975.
6. Famby, J. A.: Bacterial flora in relation to cataract extraction. *Acta Ophthal (kbh)*, 58:567-575, 1980.
7. Forster, R. K.: Endophthalmitis, diagnostic cultures and visual results. *Arch Ophthalmol*, 92:387-392, 1974.
8. Furgiuele, F. P.: Penetration of gentamycin into the aqueous humor of human eyes. *Am J Ophthalmol*, 69:481-483, 1970.
9. Furgiuele, P. F., Smith, J. P., and Baron, J. G.: Tobramycin levels in human eyes. *Am J Ophthalmol*, 85:121-123, 1978.
10. Giamerellou, H., Metzikeff, C. H., Papachristophorou, S., Dontas, A. S., and Daikos, G. K.: Prospective comparative evaluation of gentamycin or gentamycin plus cephalothin in the production of nephrotoxicity in man. *J of Antimicrobial Chemotherapy*, 5:581-590, 1979.
11. Khorozo, D., and Thompson, R.: The bacterial flora of the normal conjunctiva. *Am J Ophthalmol*, 18:1114-1116, 1935.
12. Klastersky, J., Cappel, R., Swings, G., and Vandenborre, L.: Bacteriological and clinical activity of the ampicillin/gentamycin and cephalothin/gentamycin combinations. *The Am J of the Med Sci*, 26:283-290, 1971.
13. Klastersky, A. H., and Vandenlone, L.: Antimicrobial activity of tobramycin and gentamycin used in combination with cephalothin and carbenicillin. *Am J of Med Sic*, 266:13-21, 1973.
14. Mirate, D. J., Hall, D. S., and Bobo, C.: Bacterial endophthalmitis: culture proven failure of combined systemic, periocular, and topical antibiotics. *Annals of Ophthalmol*, 13:1341-1342, 1981.
15. Locatcher-Khorazo, D., and Gutierrez, E.: Postoperative infections of the eye, in Locatcher-Khorazo, D., Segal, B. (eds): *The Microbiology of the Eye*. St. Louis. C. V. Mosby Co. 1972, pp. 77-85.
16. Locatcher-Khorazo, D., and Gutierrez, E.: Bacteriophage typing of Staphylococcus aureus: A study of normal, infected eyes and environment. *Arch Ophthalmol*, 63:774-787, 1960.
17. Murray, P. R.: Activity of cefatoxime-aminoglycoside combinations against aminoglycoside-resistant pseudomonas. *Antimicrobial Agents and Chemotherapy*, 17:474-476, 1980.
18. Peyman, G. A., May, D. R., Ericson, E. S., and Apple, D.: Intraocular injection of gentamycin, toxic effects and clearance. *Arch Ophthalmol*, 92:42-47, 1974.
19. Schechter, R. J.: Systemic antibiotics for use in ocular infections-penicillin resistant staphylococcus. *Annals of Ophthalmol*, 10:422-426, 1978.
20. Schwartz, J. H., and Schein, P.: Fanconi Syndrome associated with cephalothin and gentamycin therapy. *Cancer*, 41:769-772, 1978.
21. Snyder, H. P.: Intravenous chloramphenicol to prevent postoperative endophthalmitis. *Annals of Ophthalmol*, 10:1041-1042, 1978.
22. Letter: Roger Barnes, Deputy Director, Division of Ophthalmic; Ear, Nose, Throat and Dental Devices, Bureau Medical Devices, Food and Drug Administration: September 27, 1982.
23. Letter: Pete Molinaro, Jr., Director Regulatory Affairs, Cilco Inc.: September 7, 1982.





# ELECTROCARDIOGRAM

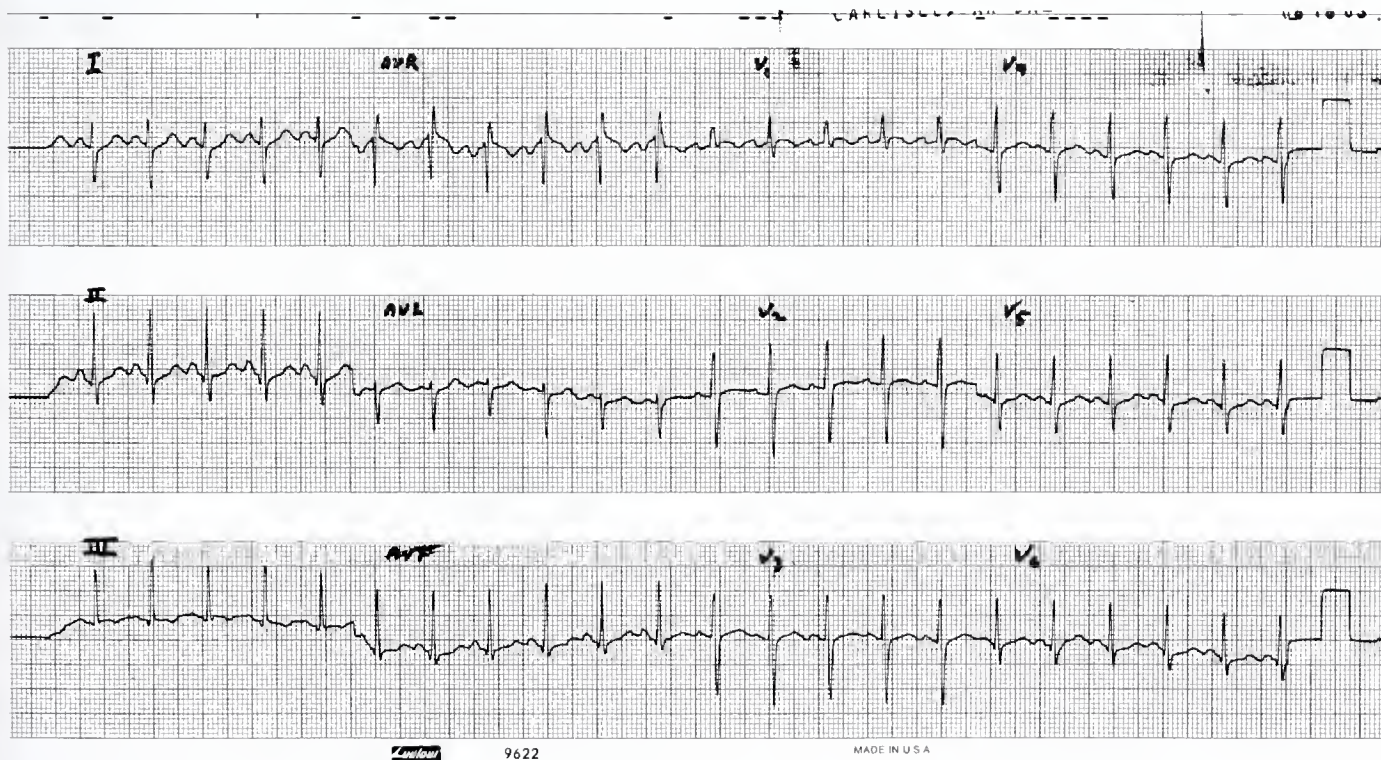


# OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 268)

**HISTORY:** S. G. is a 21-year-old black woman who presented because of cellulitis of her left foot. Her parents gave a history of extreme obesity associated with a voracious appetite dating from infancy. On general physical examination, she was noted to have short stature, marked obesity, mental deficiency, mild strabismus, upward slanting palpebral fissures, small hands and feet, and poorly developed external genitalia. Her cardiac examination revealed an accentuation of the pulmonic component of her second heart sound and an  $S_4$  gallop, but no murmurs. Her ECG is shown. Would you care to speculate on her cardiac diagnosis?



Charles Barth, M.D., and John W. Watson, M.D.

UAMS-LRVAMC Division of Cardiology

Little Rock, Arkansas



# Office Orthopaedics

## Orthopedic Treatment of the Aged

H. Austin Grimes, M.D.\*

Several factors contribute to the special problems associated with orthopedic management in the aged; the progressive deterioration of the overall physiology of the body coupled with increasing body weight with increase in fat mass in the muscle itself and decreasing coordination, balance and proprioception. Diet alone is not sufficient to control this fat mass replacement in muscle and appears to be a normal aging process, but it can be modified with a better dietary intake. The special dietary requirements of the aged should become better known and applied in the future.

Decreased hearing, vision and strength contribute to the older individual's inability to cope with the problems of stairs in the home, traffic, ice during the winter and alcohol intake.

Decreasing bone density or osteopenia with decreased cortical thickness associated with osteoporosis occur in the male and in the female. However, in the female, in the immediate post menapausal era for about five to ten years the process is accelerated. Thereafter, it tends to subside to a steady decline consistent with the decrease in bone mass in the male. This probably contributes to a higher incidence of osteoarthritis and has been said that osteoarthritis has increased with the treatment of the osteoporosis along with occasional cases of osteomalacia. Sokoloff states that there is no evidence that fluoride/calcium treatment of osteoporosis in the aged causes an increase in osteoarthritis incidence,<sup>1</sup> however, this is disputed.

Joint disease is almost universal among the elderly and is directly related to the joint function which has diseased articulation with abnormal load transmission, inability to absorb the shock because of incongruence of the joint and, probably underlying all of this, is the stiffness of the subchondral bone. Fatigue of bone may occur and with the abnormal ability to absorb the shock of weight bearing may contribute to spur formation and cysts within the subchondral area.<sup>2</sup>

Falls are the largest single cause of accidental deaths in the elderly and account for more than half of all the deaths over the age of 74. In one analysis, the Sunnybrook Medical Center Regional Trauma Unit in Toronto, the leading causes of severe morbidity and death in the elderly were 1) fracture of the ribs leading to unrecognized blood loss and pulmonary complications, 2) head injuries resulting in subdural hematoma, 3) fractures of the pelvis causing underestimated blood loss, and 4) fractures of the spinal cord which cause serious neurological problems. The other two contributory accidents that caused most of the fatalities in the elderly were motor vehicular accidents and burns in fires.<sup>3</sup>

Orthopedists concern themselves primarily with the injuries received by accidents to the elderly in falls and motor vehicular accidents. We will deal primarily with the more common injuries that are associated with the elderly and specify how these treatments differ from those in a younger healthy individual.

In treatment of wrist fractures, emphasis is made on a more gentle reduction, with the risk

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of what appears, on x-ray, to be inadequate reduction and avoidance of extremes of position of wrist flexion or hyperextension in their post reduction maintenance of immobilization. For the most part, you should avoid circumferential casting for these patients and use light weight sugar tong splints. Periods of immobilization should not extend beyond four or five weeks, rather than the usual six or seven weeks with the healthier bone. Gentle physical therapy with encouragement, striving for functional recovery rather than anatomical realignment, should be the goal in treating these fractures.

Fractures of the surgical neck and impacted neck and head fractures of the humerus should be treated with a wrist/neck sling using the weight of the arm rather than a hanging arm cast. The time of immobilization should be reduced to three weeks and begin active and passive range of motion with the therapist assisting to gain active function rather than concern with anatomical reduction. Acceptance of a less than normal range of motion many times is necessary simply because most of these people will not be doing overhead work and it is not realistic to expect them to regain a normal range of motion. However, a functional range of motion can certainly be obtained if done with reasonable care and with gentle persuasion. In those cases which do not return to a functional range of motion, forced manipulation under anesthetic usually should be avoided and because of the bone being very osteoporotic it is apt to fracture and be worse off than before.

Intertrochanteric fractures of the hip must be nailed to afford stability meaning that if the nail is not in an ideal position it should be made to be so. Near anatomical reduction on the fracture table while the patient is asleep should be obtained in order to allow what will, most undoubtedly, occur and that is weight bearing on the fractured hip because their balance is so poor. The patients with a poorer degree of coordination following these injuries will be better treated with a walker rather than attempting to get them on crutches. The walker affords more stability and a better sense of security for them and they will not ambulate well in a non-weight bearing attitude which frequently is recommended. Therefore, they will be bearing weight and it behooves us to take a little more time to reduce the fracture

and obtain good stability because the bones are so porotic that they will not tolerate an inaccurate reduction. At times, the bones being so porotic, methylmethacrylate augmentation may be necessary. Probably nail placement in the head may alter results as well and this will have to be taken on an individual basis and frequently involves a good deal of experience in handling these cases to determine where the best placement is to be made at the time of surgery.

In subcapital fractures of the femur, frequently the head is removed because of the higher incidence of avascular necrosis in the aged and the fracture occurs because they have had some limitation of motion secondary to osteoarthritic changes. In this instance, it may be necessary to consider the use of a total hip replacement even though this is a more formidable procedure. In most cases, the operative time is not so prolonged that it would add sufficient risk to the patient to be ruled out. The ultimate additional mobility of joint replacement, without external support, is worth the expense of the prosthesis.

Elderly patients frequently fracture their pelvis in falls that require less trauma to cause the fracture. They should be mobilized sooner than the average patient in the younger age groups because of the complications that occur from prolonged bedrest. Certain environmental engineering should be emphasized in the post injury area to the elderly which will benefit these patients in their recovery and their attempts to resume the normal activities of daily living. Things such as bedside commodes, overhead frames to assist the patient getting in and out of bed, nonslip surfaces and other mechanical devices should be instituted post-operatively and on their return to either a nursing home or home.

In arthritic patients physicians should emphasize replacement of hip and knee joints, which have been quite successful in the elderly and should be considered a high priority on those who are no longer able to be ambulatory, if all other conditions allow it. The patient deserves a relatively good functioning joint to maintain their independence as long as they can. This serves a dual purpose in that it keeps the elderly active independently for a longer period of time and fewer personnel would be required to be in attendance.

Compression fractures of the spine should be treated as all other compression fractures with supports, however, surgical corsets, both thoracolumbar and lumbar corsets, sometimes are not tolerated by the elderly and with a reasonable degree of caution they may be dispensed with. Mobilization is far more important and the return to near pre-injury activities is desirable as soon as possible in these patients even at the risk of getting slight increase in collapse of the bone.

Bone loss with age is not the result of decreased bone formation, but probably the result of lack of balance between formation and resorption and in those instances, if the patient can tolerate the oral medication, a combination of fluoride and calcium has been proved beneficial as evidenced by the work done by Dr. Jennifer Jousy at the University of California at Davis.

There is hope for us who are reaching 55 and older as the back pain complaints become less common. Reasons for this are not exactly clear but it is probably due to decreased activity level and avoidance of those activities which cause the

difficulty. The collagen becomes less mobile in the 55+ group and, therefore, the incidence of frank herniated disc protrusions and extrusions becomes markedly diminished after that age.

In summary, we must strive to mobilize the upper extremity fractures and the non-massive pelvic fractures. Hip fixation stability is survival for the patient and joint replacement should be a continuing consideration even in the extremely elderly. Rehabilitation should be emphasized in the elderly just as it is in the younger patients and it will be rewarding.

## REFERENCES

1. Ilardi, C. F., and Sokoloff, L.: The Pathology of Osteoarthritis: Ten Strategic Questions for Pharmacologic Management. *Semin. Arthritis Rheum.*, #11 (Supplement 1) 3-7, 1981.
2. Radin, Erik L.: Biomechanics of Joint Deterioration and Osteoarthritis. Professor of Orthopedics, West Virginia University Medical Center, Morgantown, West Virginia.
3. Hunter, Gordon, and James, E. T. R.: Abstract from the Surgery of Trauma in the Elderly. Sunnybrook Orthopaedic Association, Toronto, Canada.







## A Five-Year Evaluation of Tularemia in Arkansas

Thomas C. McChesney, D.V.M.,\* and Jai Narain, M.D.\*\*

### Summary

Again in 1982 Arkansas was number one in reported cases of human tularemia. Sixty-nine laboratory confirmed cases were reported — 27% of the United States total. So far this year fifty-four cases have been reported (as of September 3, 1983) compared to 50 cases reported for the same period in 1982. Therefore Arkansas is experiencing a continued increase in human tularemia. In this article data taken from case histories of Arkansas patients for the past five years are evaluated in an attempt to further establish the source, transmission, symptoms, and characteristics of the disease in Arkansas.

During the period 1978-1982, 250 patients with serologically or culturally confirmed tularemia were reported to the Arkansas Department of Health (representing 23% of all U.S. cases). Five of the illnesses (2%) were fatal. Reported cases were in all age groups but predominately in males. Of 193 patients (77%) with exposure data, 143 (74%) gave a history of tick bite or had visited a tick infested area, 20 (10%) had dressed or handled a rabbit, and nine (5%) had handled other wild animals before becoming ill. Multiple exposures were reported in 21 (11%). Cases were geographically distributed in areas where lone star ticks (*Amblyomma americanum*) are predominant. Clinical findings in reported patients included regional lymphadenopathy (76%), chest x-ray abnormalities (34%), and gastrointestinal symptoms (19%) such as vomiting and diarrhea. More tick-associated cases developed inguinal or femoral lymphadenopathy (at the site of the tick bite) than the rabbit-associated cases. Patients with pulmonary tularemia were less likely to have

lymphadenopathy and history of tick exposure than other types. Illness proved fatal in four patients with pulmonary complications and one patient with renal insufficiency.

### History

The causative organism of tularemia was first discovered in ground squirrels in Tulare County, California, in 1911 by McCoy and Chapin while plague surveys were being conducted in squirrel and rodent populations. The disease organism, originally called *Bacterium tularensis*, was later recognized in 1914 as causing human infection. In 1919 deerflies were incriminated as vectors transmitting the organism from diseased animals to man, and in 1924 ticks were found to be naturally infected and capable of transmitting the disease to humans.

In 1925 and 1926, Japanese investigators sent patient serum and lymph glands to the United States resulting in confirmation of the disease in that country. The history of tularemia in the USSR has been notable for detection of the organism in water and the development of an effective vaccine. Today the disease is recognized primarily in Europe, Asia, and North America.

### Description of the Pathogen

Taxonomists finally named the causative organism *Francisella tularensis* after Dr. Edward Francis (USPHS) who demonstrated that deerfly fever in Utah in 1919 was actually tularemia. The site of discovery, Tulare County, California, and the fact that there is often a bacteremia, resulted in the term tularemia. The organism is a small faintly staining aerobic nonmotile pleomorphic gram negative nonspore forming coccobacillus that may possess a single flagellum. Two types of organisms differing in virulence but serologically identical are recognized. Type A bacteria are highly virulent in man and rabbits and are recovered from ticks and other insects.

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Eighty percent of the human cases in North America are believed to be Type A. Type B bacteria are less virulent for man and rabbits, and are commonly recovered from rodents, water, and aquatic animals such as muskrats and beavers.<sup>1</sup>

Viable bacteria have been demonstrated in water and mud samples stored at 44.6°F for as long as 14 weeks, in tap water for as long as three months, in dry straw litter for at least six months, and in cured meats for at least 30 days. Chlorination of water in the usual concentrations 1.5 mg/L is reported to kill the organism in drinking water.<sup>2</sup>

Epidemiology

Mode of Transmission to Man

Probably no other disease is transmissible in as many ways as tularemia. Compilation of statistical data from surveillance report forms clearly indicates that in Arkansas tick borne infection accounts for the majority of cases. Seventy-four percent of the patients with known exposures had a history of a tick bite or being in a tick infested area preceding their illness. The disease may also be transmitted by ingestion of contaminated water or undercooked diseased meat, by breathing in infected dust or aerosols, and by contamination of skin or mucous membranes of the mouth and eyes with body fluids while dressing diseased animals. Animal bites on rare occasions have been responsible for transmitting tularemia. Despite the fact that the organism is highly infectious, person to person transmissions are rare. Table I below is a listing of exposure data extracted from surveillance reports.

The majority of cases occurred from March through September, the warm weather months with increased tick activity, and not during the

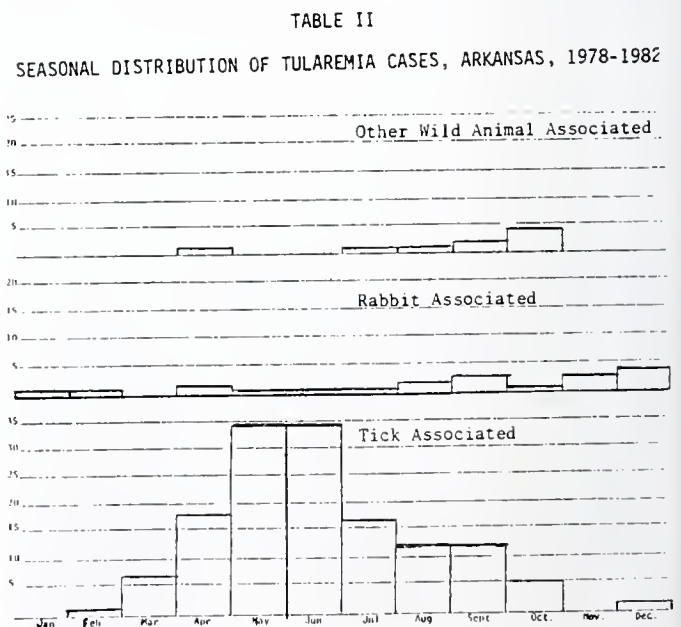
hunting season later in the fall. This is further evidence that tularemia is no longer a disease primarily transmitted to humans while dressing game animals as the literature of 30 to 40 years ago often stated. See Table II.

A joint project between the Centers for Disease Control and the Arkansas State Board of Health conducted in 1951-1952 to determine the species of ticks in Arkansas, their distribution and abundance, and those naturally infected, showed 92.8% of the ticks collected to be *Amblyomma americanum* (the lone star tick) and 7.1% to be *Derma-centor variabilis* (the American dog tick). The remainder in decreasing numbers were *Haemaphysalis leporis-palustris* (the rabbit tick), *Ixodes scapularis* (the deer tick or black legged tick), and *Amblyomma maculatum* (the gulf coast tick). Ticks were collected in 64 counties by dragging and removal from 13 species of animals. The small number of rabbits examined accounted for reduced numbers of the rabbit ticks, and the off season accounts for the small number of deer ticks collected.<sup>3</sup>

In the course of a field study in Arkansas in 1953, 576 pools totaling 28,661 lone star ticks (*Amblyomma americanum*) were tested for tularemia by animal inoculation, and 11 pools (1.9%) were found positive — an average of one infected tick in 2,605, assuming only one infected individual to each positive pool. The distribution of naturally infected ticks was shown to be spotty, and the finding of a batch of infected, unfed larvae of *A. americanum* indicates the probable occurrence of transovarial transmission of tularemia in this species.<sup>4</sup>

Table I.  
Source of Exposure of Reported  
Tularemia Cases, Arkansas 1978-1982

Source	Reported Cases	
	Number	Percent
Tick only	143/193	74.0%
Rabbit only		
(dressing or handling)	20/193	10.4%
*Animals other than rabbits		
(dressing or handling)	9/193	4.7%
Multiple exposures	21/193	10.9%
Unknown exposures		
not considered		
*Squirrel — 5, cat — 1, cattle — 1, raccoon — 1, unknown — 1.		





The lone star tick was the only arthropod found naturally infected with tularemia, although the number of other ticks tested was insufficient to justify general conclusions. Tularemia-infected lone star ticks were collected in May, July, and September, coinciding with the reported seasonal incidence of human infections; and the data presented, taken in connection with previous epidemiologic investigations, also point to ticks as the chief vector of tularemia in Arkansas.<sup>5</sup> A. Kornblatt, D.V.M., and G. Schmid, M.D., at the Centers for Disease Control presented a paper titled "Tularemia on the Crow Indian Reservations in Montana" November 20, 1979, and indicated that *Dermacentor variabilis*, the American dog tick, was found to be the primary vector of tularemia at that location.

Studies to detect vertebrate animal reservoirs on a continuing basis in Arkansas began in February, 1983, and will be conducted on a continuing basis by testing serological samples on various animals from different locations in the State. Testing of 11 dogs from the city of Hot Springs and 17 dogs from Little Rock showed only one dog from Hot Springs to be positive at a titer of 1:40. Eighteen additional samplings of dog blood from all over the state resulted in one positive from Morrilton at 1:80 and one positive from Osceola at 1:40. Sixty cattle tested at random from all areas of the state were 43% positive, 20 had titers of 1:40, three were 1:80, three were 1:20, and the remaining 34 were negative. Six wild rabbits reported sick in the Little Rock area were tested, and proved to be negative. Also negative were six opossums, one squirrel, one chipmunk, and five deer. One opossum was positive with a 1:160 titer. Sixty-four rats were tested, one was positive at 1:40. In May and July of 1983, 50 samples of male human serum taken at random from most areas of the state tested negative with the exception of two individuals from Faulkner County which showed titers of 1:40.

It has been speculated that humans may be subclinically infected and develop antibody titers of several years duration, and that a future febrile illness may be improperly diagnosed as tularemia based on a single positive antibody titer.

The criteria used to define a case requires at least a 1:160 titer plus compatible symptoms or a four fold rise in titer between acute and convalescent sera. The fact that none of the 50

healthy humans tested had titers greater than 1:40 is sufficient evidence to conclude that the serological standards are identifying genuine cases.

Hubbert, McCulloch, and Schnurrenberger in their text "Diseases Transmitted from Animals to Man," state, "Dogs have been nominated as the primary reservoir of tularemia in Arkansas as well as the principal disseminator of *A. americanum*, the main tick vector in the area. Results of testing in the southeastern U.S. showed that 19% of nearly 1800 carnivorous animals tested were reactive serologically with titers of 1:80 or greater." In the future, serological testing of the family dog will be conducted whenever there is a human case to determine if there is any correlation between canine and human tularemia. Ticks from the dog will also be tested depending on laboratory support. Dogs act as a transport media to bring ticks into the home environment. Whether dogs act as a reservoir of the disease and are capable of infecting ticks is debatable, especially in view of the fact that bacteremia probably only lasts a week or so after the initial infection.<sup>6</sup>

Serological evidence of non-lethal infection is common in cattle, buffalo, goats, and sheep. Well fed sheep are resistant, but high mortality has been documented in poorly fed range sheep with heavy tick infestations. Since 1951 testing of sheep and cattle in western Utah has shown 22% of the cattle and sheep to have antibody titers.<sup>7</sup>

The significance of the 43% positive rate for the 60 cattle tested this year in Arkansas is unknown. Most cattle in Arkansas do harbor ticks in the summer months, but tularemia has not been incriminated as causing morbidity or mortality in cattle in Arkansas. A lack of increased incidence of tularemia in packing house workers suggests that the slaughtering of reactor cattle is not a threat to the health of employees and that the meat is fit for consumption. Further serological testing of packing house workers and veterinarians is indicated.

#### Incidence

In the U.S. during the period 1930-1949, an average of 1,128 cases of tularemia occurred annually. From 1960-1969 there was an average of 274 cases per year. Table III shows that in Arkansas during the past five years there has been an upward trend in the number of cases reported.

Table IV shows the diagnostic criteria for the 250 cases reported during the past five years.

Those persons at highest risk are trappers, hunters, those handling wild game and those engaged in outdoor activities. Age and sex distribution is shown in Table V. Table VI shows the occupation.

Geographical distribution is shown in Table VII and favors the mountainous and wooded areas of the northwestern part of the state. Few cases are seen in the flat agricultural land in the Mississippi delta area.

**Table III.**  
**Annual Number of Reported Tularemia Cases**  
**For the U.S. and Arkansas, 1978-1982**

Year	Arkansas		United States <sup>8</sup>		Arkansas % of U.S. Totals
	No.	Rate per 100,000	No.	Rate per 100,000	
1978	34	1.5	141	.06	24.1
1979	42	1.9	196	.09	21.4
1980	60	2.7	234	.1	25.6
1981	60	2.7	288	.13	20.8
1982	69	3.1	254	.11	27.2

Average case fatality rate for Ark. 1.9%.

Average annual incidence of reported tularemia for Arkansas 1978-1982 2.36/100,000.

Average annual incidence of reported tularemia in the U.S. 1978-1982 .092/100,000.

**Table IV.**  
**Diagnosis of Reported Tularemia Cases,**  
**Arkansas, 1978-1982**

Diagnostic Criteria	No. of Cases	Percent
By serology 4 fold rise	111	44
Compatible symptoms		
+ 1:160 titer =	134	54
By isolation of the organism* =	5	2

\*Isolated from blood (2), lymph node (1), lung aspirate (1), and postmortem lung tissue (1).

**Table V.**  
**Age and Sex Distribution of Reported**  
**Tularemia Cases, Arkansas, 1978-1982**

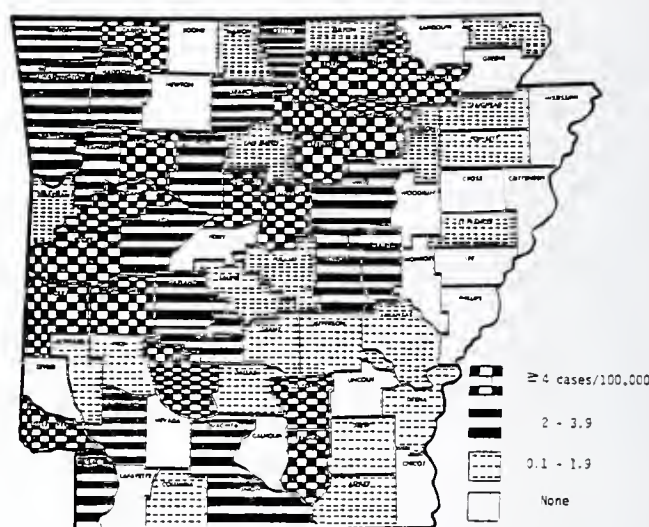
Age Group	Male	Female	Total	
			No.	Percent
<5	10	8	18	7
5-14	24	12	36	14
15-24	30	7	37	15
25-34	18	5	23	9
35-44	22	6	28	11
45-54	19	2	21	8
55-64	26	14	40	16
65-74	18	10	28	11
75+	11	2	13	5
Unknown	5	1	6	2
TOTAL	183	67	250	100
	(73.2%) (26.3%)			

**Table VI.**  
**Occupation of Reported Tularemia Cases,**  
**Arkansas, 1978-1982**

Occupation	Cases	
	Number	Percent
Student/Preschooler	51	26.0
Retired	28	14.3
Housewife	22	11.2
Farmer	19	9.7
Factory Worker	14	7.1
Unemployed	11	5.6
Timber	9	4.6
Construction Worker	9	4.6
Office Work	6	3.1
Animal Handler	3	1.5
Other*	24	12.2
Subtotal	196	
Unknown occupation	54	21.6
TOTAL	250	

\*air force (3), aid/nurse (4), driver (3), electrician (2), salesman (2), and 10 varying occupations.

TABLE VII  
INCIDENCE OF TULAREMIA BY COUNTIES, 1978-1982



### Clinical Symptoms

After an incubation period of one to ten days, the most common symptoms to appear are headache, fever, chills, malaise, fatigue, and gastrointestinal symptoms. Additional symptoms vary depending on the mode of transmission.

The ulceroglandular form is characterized by an ulcerated skin lesion with regional lymphadenopathy. The source of infection for this type is usually a tick bite or skin contamination from blood or body fluids of a diseased animal. Skin lesions are located on the fingers and hands in most of the rabbit, squirrel, or deer associated cases with axillary and epitrochlear lymph node



involvement. In tick borne infections, the ulcer is usually on the lower extremities and trunk with subsequent swelling of the femoral and inguinal lymph glands. In some instances an ulcer does not form at the point of entry of the organism. (See Table VIII.)

The typhoidal form may originate from ingestion of under-cooked infected meat, by drinking contaminated water, from the inhalation of infected aerosols, skin contamination, or by tick bites. The clinical signs are more protean in nature quite severe and often times resemble typhoid fever. There may be no history of exposure. Fever, prostration, malaise or gastro-intestinal symptoms may be present.

The pleuro pulmonary form may result from inhalation of infected aerosols or as a complication of other forms such as the typhoidal or ulceroglandular forms. Symptoms include chest pains, cough, and patchy ill defined infiltrates in one or more lobes. Chest x-rays performed on 167 patients (77.6% of all patients reported) showed 57 or 34.1% to have abnormal findings ranging from pneumonia, pleural effusions and pleuritis to unspecified pathology. The oculoglandular form is seldom seen and usually is a result of rubbing the eyes with contaminated fingers. Symptoms include unilateral conjunctivitis with preauricular and cervical lymphadenopathy.

The oropharyngeal form, usually resulting from ingestion of the organism, causes an acute exudative or membranous pharyngotonsillitis with cervical lymphadenopathy. This form of tularemia was not reported.

**Table VIII.**  
**Sites of Lymph Node Enlargement In Reported Tularemia Cases, Arkansas, 1978-1982**

Site*	Cases	
	Number	Percent
Inguinal	90	54
Cervical	24	14
Axillary	19	11
Femoral	6	4
Hilar	4	2
Others	8	5
Multiple sites	8	5
Unknown site	8	5
<b>TOTAL</b>	<b>167</b>	<b>100</b>

\*Lymphadenopathy was unilateral in 59%, bilateral in 3% and the remaining 38% were not specified.

### Diagnosis

Patients with a history of a recent tick bite, dressing wild game animals, or being in outdoor areas in summer months that develop fever, headache, malaise, prostration, and swollen lymph glands are prime candidates for tularemia. Since tick bites are often unnoticed, and the disease may also be waterborne, airborne, or foodborne, tularemia cannot be ruled out based on the case history. Milder symptoms and the absence of a skin rash with swollen lymph glands clinically indicates tularemia instead of Rocky Mountain Spotted Fever which is characterized by a severe headache and an erythematous macular rash that often spreads to the palms and soles without lymphadenopathy.

The Public Health Laboratory, Arkansas Department of Health, conducts agglutination tests specific for *Francisella tularensis*. Ideally, acute and convalescent sera should be tested to demonstrate a four fold rise in titer which is diagnostic. Titers usually take 10 to 14 days to develop and reach their peak in four to six weeks and may remain elevated for years. A single titer of 1:160 with compatible symptoms is considered to be diagnostic.<sup>9</sup> Less commonly, blood cultures or fluorescent antibody staining of sputum, ulcer tissue or lymph node may reveal the organism and is also diagnostic.

### Prevention and Treatment

Currently the Centers for Disease Control has available an attenuated vaccine for laboratory personnel and high risk workers that may be supplied if requested.

Streptomycin is the drug of choice administered at the rate of 15-20 mg/kg a day intramuscularly in divided doses for seven to ten days. For severe infection larger doses (not to exceed 30 mg/kg/a day) may be given for two to three days followed by 15-20 mg/kg/a day. Tetracycline or chloramphenicol may be given but clinical relapses occur more frequently with these drugs, particularly when administered for less than 14 days. A loading dose of tetracycline or chloramphenicol 30 mg/kg orally is given followed by 30 mg/kg orally in divided doses for 14 days.<sup>10</sup>

### REFERENCES

1. Joklik, Willett, and Amos: *Zinsser Microbiology*, 17th Edition, *Francisella tularensis*, Clinical Infection, p. 785.

2. Steele, James: *Handbook Series in Zoonosis, Bacterial, Rickettsial & Mycotic Diseases*, Volume 11, CRC Press, Boca Raton, FL, 1980, Tularemia, p. 165.
3. Earnest L. Calhoun: 1954, *Natural Occurrence of Tularemia in the Lone Star Tick, Amblyomma americanum and in Dogs in Arkansas*, American Journal of Tropical Medicine and Hygiene 3(3), p. 360.
4. Earnest L. Calhoun and Hugh I. Alford, Jr.: 1955 CDC, Atlanta, GA, *Incidence of Tularemia and Rocky Mtn. Spotted Fever Among Common Ticks of Arkansas*, American Journal of Tropical Medicine & Hygiene, p. 316.
5. *Ibid.*, p. 317.
6. Hubbert, McCulloch, and Schnurrenberger: *Diseases Transmitted from Animals to Man*, 6th Edition, Tularemia, p. 206.
7. *Ibid.*, p. 197.
8. Morbidity Mortality Weekly Report Annual Summary, 1981, Center for Disease Control, Oct. 1982, Vol. 30, No. 54, p. 13.
9. Mandell, Douglas, and Bennett: *Principles and Practices of Infectious Disease*, A. Wiley Medical Publication, 1979, Tularemia, p. 1787.
10. *Ibid.*, p. 1788.



## Surgical Overview:

### Management of Esophageal Perforations\*

Gilbert S. Campbell, M.D., Ph.D.\*\*†

Controversy persists as to the best form of management for esophageal perforations. Some authors have proposed non-operative treatment consisting of intravenous antibiotics and parenteral hyperalimentation. Others have suggested total thoracic esophagectomy with secondary reconstruction at a later date. The objectives of this paper are to review the causes, sites, symptoms, signs, diagnosis and treatment of perforations of the esophagus.

The esophagus has been described by Sweet as "a contaminated tract containing a bacterial flora rich in harmful forms, above all the anaerobes. Its walls are thin and fragile. It has no serous coat, its blood supply is often tenuous. Furthermore, it occupies the middle of the mediastinum, where in case of perforation, dissemination of infection throughout the mediastinal connective tissue is the inevitable and often fatal result. Finally, the retrovisceral (prevertebral) fascial space in the neck communicates directly with the cellular tissue of the posterior mediastinum, and an infection, once it is spread downward, meets

no obstacle capable of preventing its widespread diffusion."<sup>1</sup> Table 1 lists the causes of esophageal perforation.

The risk of esophageal perforation during endoscopy is 0.2-0.7 percent. Rigid esophagoscopy under general anesthesia is particularly hazardous and reflects the greater need for gentleness in the unconscious patient.<sup>2</sup> When a surgeon "loses his way" during endoscopy, the risk of perforation increases.

During the mid 1950's, Mr. Daintree Johnson of the United Kingdom was visiting Dr. Wangenstein's Department of Surgery. At Surgery Grand Rounds, Dr. Wangenstein became carried away on waves of enthusiasm and suggested every pa-

Table 1.

#### Etiology of Esophageal Perforation

Iatrogenic
esophagoscopy
gastroscopy
bougienage
intubation
para-esophageal surgery
Spontaneous
Boerhaave's syndrome (post-emetic)
Mallory-Weiss syndrome
Intramural rupture
Foreign body
External trauma

\*Abridged version of material which will appear in a forthcoming publication entitled *Advances in Gastrointestinal Surgery*, edited by John Najarian and John P. Delaney, and which will be copyrighted in 1974 by the Year Book Medical Publishers, Inc., Chicago (in press).

\*\*1983 Surgical Alumnus of the Year, University of Minnesota. (Previous recipients) Owen H. Wangenstein, 1978; Lloyd D. MacLean, 1979; Norman E. Shumway, 1980; K. Alvin Merendino, 1981; Richard L. Varco, 1982.

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tient have proctosigmoidoscopy as a part of the physical examination. Issues such as cost effectiveness, availability of sufficient endoscopic manpower, patient acceptance, etc., failed to dampen Dr. Wangenstein's spirit. Finally, Mr. Johnson rose and with warm wit described a protoscopic examination on one of his patients who had a previous double-barrelled colostomy. The junior registrar became lost as the scope exited through the mucous fistula and the senior registrar queried him as to what he was viewing. Unabashedly the junior registrar replied, "I see a beautiful little blue bird sitting on the limb of a tree chirping its very heart out."

Perforation of the esophagus during esophagoscopy can occur at any level, but the sites of normal narrowing are the ones most frequently involved. The narrow esophageal introitus is a frequent site for cervical esophageal perforation. Spasm or hypertrophy of the cricopharyngeal sphincter plus arthritic vertebral spurs magnify the likelihood of perforation at the esophageal opening. The forward and left lateral bend of the distal esophagus contribute to perforation of the lower esophagus.

Most cervical esophageal perforations are located posteriorly resulting in suppuration in the retrovisceral space and along fascial planes into the mediastinum down to the level of the tracheal bifurcation. The upper two-thirds of the thoracic esophagus lies adjacent to the right pleural cavity and the lower third of the thoracic esophagus is close to the left pleural cavity.

Perforation of the cervical esophagus is characterized by pain, subcutaneous emphysema, air in the retrovisceral space, and pneumomediastinum. Thoracic esophageal perforations cause pain, pleural effusion, pneumomediastinum, dyspnea and shock. With rupture of the thoracic esophagus, acute mediastinitis develops rapidly because of an outpouring of gastric contents and virulent salivary organisms into the mediastinum. The motion of the heart and lungs tends to spread the infection rapidly and rupture of the mediastinal pleura is followed by pleural effusion and empyema.

The clinical course depends on: 1) the cause of the perforation; 2) the condition of the esophagus at the time of the perforation — normal versus esophagitis, fibrosis, stricture, or cancer; 3) the level of perforation; 4) the magnitude of injury and quantity and quality of contaminated ma-

terial; 5) the time elapsed since the perforation.<sup>3</sup>

A gastrograffin swallow will usually localize the level of the esophageal perforation. If this examination is negative and the clinical diagnosis is still targeted towards esophageal perforation, a barium examination may reveal the leak. Esophagoscopy is rarely used in the diagnosis of esophageal perforation except when a foreign body is present in the esophagus.

Holes in the alimentary tract excite most surgeons. It is tempting to close all perforations. For perforation of the cervical esophagus, exploration and drainage of the retrovisceral space (with or without closure of the esophageal perforation) gives excellent results. Perforations of the thoracic esophagus should be closed if the condition of the esophageal tissue permits secure approximation. With perforations of the thoracic esophagus, the mediastinum is opened widely and after closure of the perforation, a gastric fundic patch<sup>4</sup> or a pleural flap<sup>5</sup> may be used to buttress the closure. It should be remembered that the hole in the esophageal mucosa may be a good deal larger than the rent in the esophageal muscle.

A review of the management of esophageal perforation at Vanderbilt demonstrated that the mortality rate was four times higher when treatment was delayed more than 24 hours after esophageal perforation.<sup>6</sup> Sepsis and autodigestion of mediastinal tissues is associated with a high morbidity and mortality. So-called conservative management of these desperately ill patients may postpone death, but is not lifesaving. Either total esophageal exclusion or total thoracic esophagectomy has been performed to prevent further soilage and sepsis in the thorax.<sup>7,8</sup>

Finally, any effort to suture a leak above a major obstruction in the esophagus is as unlikely to succeed in the esophagus as in other parts of the alimentary tract. In such patients, the treatment has to be directed both to the leak and the esophageal obstruction. When the disruption of the esophagus is clearly contained and is well drained back into the esophagus, and when symptoms and signs of infection are minimal, non-operative management with antibiotics and hyperalimentation has been practiced.<sup>9</sup> However, non-operative management has been followed by serious complications and death in the experience of others.<sup>10</sup>

Boerhaave, the great clinical teacher at Leyden, was the first to describe spontaneous (postemetic)

esophageal perforation. He wrote the illustrious Baron de Wassenaer, Lord High Admiral of the Dutch Republic, "who after intense straining and vomiting broke asunder the tube of the esophagus near the diaphragm so that after the most excruciating pains the aliments which he swallowed passed together with the air into the cavity of the thorax and he expired in 24 hours."<sup>11</sup>

In 1946 Barrett reviewed the literature on spontaneous perforation of the esophagus and reported three new cases who died with this terrible and dramatic condition. He suggested "thoracotomy should be done as soon as the diagnosis can be made, and since the perforation is so constantly at the lower end of the esophagus the chest should be opened with this goal in view."<sup>12</sup>

On 7 March 1946, Barrett performed the first successful operation for spontaneous perforation of the esophagus.<sup>13</sup> Tables 2 and 3 summarize the differences between spontaneous perforation of the esophagus and Mallory-Weiss syndrome.<sup>14</sup>

Mucosal ruptures may occur spontaneously or may be caused by foreign bodies and instrumentation. Spontaneous mucosal tear with intramural hematoma are not an intermediate stage between Mallory-Weiss and Boerhaave's syndromes. These tears are not limited to the cardia or lower esophagus, they usually cause severe pain made worse on swallowing, they occur most commonly in older females, they can be diagnosed by gastrografen swallow, and cessation of oral intakes plus the administration of supportive measure and antibiotics will lead to recovery without surgical

intervention if "the surgeon's nerve holds."<sup>16</sup>

Esophageal wounds due to external trauma may be difficult to locate at operation. If the anesthesiologist instills Methylene blue solution rather than air into the esophagus, the site of perforation can be seen.

Finally, the optimal management of esophageal perforation requires an early and accurate diagnosis with prompt and definitive therapy.

#### REFERENCES

1. Terracol, J., and Sweet, R. H.: Disease of the Esophagus. Philadelphia, Saunders 1958, page 443.
2. Triggiani, E., and Belsey, R.: Oesophageal trauma: incidence, diagnosis, and management. *Thorax*, 32:241, 1977.
3. Naclerio, E. A.: Chest Injuries: Physiologic Principles and Emergency Management. Grune & Stratton, New York & London, 1971.
4. Thal, A. P.: A unified approach to surgical problems of the esophagogastric junction. *Ann Surg*, 168:542, 1968.
5. Grillo, H. C., and Wilkins, E. W., Jr.: Esophageal repair following late diagnosis of intrathoracic perforation. *Ann Thorac Surg*, 20:387, 1975.
6. Sawyers, J. L., Lane, C. E., Foster, J. H., and Daniel, R. A.: Esophageal perforation—an increasing challenge. *Ann Thorac Surg*, 19:233, 1975.
7. Urschel, H. C., Jr., Razzuk, M. A., Wook, R. E., Galbraith, N., Pockey, M., and Paulson, D. L.: Improved management of esophageal perforation: exclusion and diversion in continuity. *Ann Surg*, 179:587, 1974.
8. Mayer, J. E., Jr., Murray, C. A., III, and Varco, R. L.: The treatment of esophageal perforation with delayed recognition and continuing sepsis. *Ann Thorac Surg*, 23:568, 1977.
9. Cameron, J. L., Kieffer, R. F., Hendrix, T. R., Mehigan, D. G., and Baker, R. R.: Selective nonoperative management of contained intrathoracic esophageal disruptions. *Ann Thorac Surg*, 27:404, 1979.
10. Skinner, D. B., Little, A. G., and DeMeester, T. R.: Management of esophageal perforation. *Am J Surg*, 139:760, 1980.
11. Boerhaave, H.: (1) Atrocis, nec Descripti Prius, Morbi Historia. (2) Secundum medicae artis leges conscripta, Lugd. Bat. Boutesteniana 1724 English translation. *Bull Med Libr Assoc*, 43:217, 1955.
12. Barrett, N. R.: Spontaneous perforation of the oesophagus: review of the literature and report of three new cases. *Thorax*, 1:48, 1946.
13. Barrett, N. R.: Report of a case of spontaneous perforation of the oesophagus successfully treated by operation. *Br J Surg*, 35:216, 1947.
14. Mallory, G. K., and Weiss, S.: Hemorrhages from lacerations of the cardiac orifice of stomach due to vomiting. *Am J Med Sci*, 178:506, 1929.
15. Mackler, S. A.: Spontaneous rupture of the esophagus: an experimental and clinical study. *Surg Gynecol Obstet*, 95:345, 1952.
16. Kerr, W. F.: Spontaneous intramural rupture and intramural haematoma of the oesophagus. *Thorax*, 35:890, 1980.

**Table 2.**

#### **Spontaneous (Post-Emetic) Perforation**

Most have Mackler's triad<sup>15</sup>

vomiting

subcutaneous emphysema

pain in lower thorax

Fever

Dyspnea

Pleural effusion, pneumomediastinum,

hydropneumothorax

Gastrografen swallow is diagnostic

Esophagoscopy not helpful

Operation mandatory

**Table 3.**

#### **Mallory-Weiss Syndrome**

Hematemesis in 93%

Retching in 61%

Esophagoscopy is diagnostic

Most can be managed non-operatively





## EDITORIAL

# Raisz and Kream Review Bone Formation

Alfred Kahn, Jr., M.D.

There has been a renewed interest in the regulation of bone formation in the past several years. This topic has been reviewed by Raisz and Kream, (*New England Journal of Medicine*, Volume 309, p. 29, July 7, 1983, and p. 83, July 14, 1983).

In this article, the authors point out that the formation of the collagenous frame work in bone requires a number of steps. The so-called collagenous bony matrix is said to be made principally of type I collagen. These molecules of collagen are ultimately brought together into fibrils which are held together by cross linkages consisting of molecules which may be inside or outside of the collagen cells. The collagen matrix is synthesized by osteoblasts which also are responsible for the formation of other substances in the bony matrix. Raisz and Kream have described some of the extracellular proteins which bind calcium. The osteoblasts are also said to form osteonectin which is an important substance said to bind to both calcium and collagen. There are other substances in the matrix, some of which derive from the osteoblasts, but some derive from other sources.

In this article, the authors have reviewed the origin and role of osteoblasts which are said to be descendent cells from mesenchymal cells which are biologically marked for bone formation. They state that the osteoblasts form bony matrix, as noted above, and later it may be buried as an internal osteocyte or may remain superficial in the bone as a surface osteocyte. It is believed that osteocytes and osteoblasts are joined to each other by cell processes. The authors state that when new bone is made it could derive from osteoblasts or from more primitive cells forming new osteoblasts. Instead of using the existing available osteoblasts, the authors have speculated that

osteoblasts may play some role in the association of calcium with the matrix to form bone. The exact process where in the minerals are laid down in the matrix to form solid bone is really unknown.

One of the central themes of this article is the manner in which bony changes occur by bone resorption and new bone formation. Remodeling of bone is said to go on constantly. Raisz and Kream state that adults constantly have bony resorption and new bone formation, and they use the expressions modeling and remodeling to describe the bony changes.

It appears that the process of bone formation is under the influence of hormones: parathyroid hormone 1, 25-Dihydroxy Vitamin-D (Calcitriol) are said to stimulate resorption of bone; they are also said to have a direct depressive action on osteoblastic activity. On the other hand, the authors report that calcitonin slows or stops bone resorption without interfering with osteoblastic activity. As is well known, there are many hormones which are not primarily involved with bone that influence bony homeostasis; they include cortisol, insulin, thyroid hormones, growth hormones and sex hormones. Certain growth factors also affect bone.

The parathyroid hormone has been most intensively studied over all the hormones which directly involve bone and it is said to be the most important "Regulator of extracellular calcium concentration." Extracellular calcium has a direct bearing, of course, on bone formation. Low blood calcium stimulates parathyroid hormone release which, in turn, is said to cause calcium to be released from bone and to also influence the renal tubular resorption of calcium and the manufacturing of 1, 25-Dihydroxy Vitamin-D (Calcitriol). Calcitriol promotes the absorption of calcium and phosphorous out of the gut and

it is said that it can work in conjunction with the parathyroid hormone to cause bone reabsorption. The authors mention that patients with hyperparathyroidism tend to have a decreased bony mass in their body, and decreased bone density, whereas, patients with hypoparathyroidism are said to have decreased bone density. They also report that parathyroid hormone can have a paradoxical effect in that it can stimulate or diminish bone formation; this dual effect apparently depending on the time and amount of exposure to parathyroid hormone. What happens when parathyroid hormone attaches to a cell has been a matter of considerable study. It appears that when this occurs, cyclic AMP increases and adenylate cyclase increases. These may act as intracellular messengers. Calcium is also said to be an intracellular messenger. Ultimately, the function of parathyroid hormone is to help control and establish an adequate supply of calcium in extracellular fluid and inside the cells — according to Raisz and Kream. When extracellular calcium is in low supply, parathyroid hormone increases and calcium is removed from bone to build up the necessary level in blood.

Vitamin-D has been intensively studied because of its involvement in bone formation. The authors state that there are fifteen natural derivatives of cholecalciferol, but that Calcitriol seems to be able to mediate all of the effects of Vitamin-D hormone. They cite the fact that Vitamin-D deficiency results in a decrease in linear bone growth and that when Vitamin-D is replaced, the bone will grow again. The mechanism of this affect is unknown. A lack of Vitamin-D definitely decreases bone matrix formation, but it is not known if this is a direct or indirect effect. The authors comment on the fact that at the cellular level, Calcitriol and parathyroid hormone act to cause a similar metabolic result — bone formation can be inhibited or stimulated. Calcitriol, to be effective, has to be bound to the cell. It has been found to be attached to cytosol inside osteoblasts.

In this article, Raisz and Kream have reviewed the effects of glucocorticoids which is representative of a group of systemic hormones which affect bone. It is well recognized that cortisol-like drugs retard skeletal growth and cause a decrease in bone mass — for example, children taking these drugs have impaired bony development which often disappears when the cortisol-like drug is stopped. Apparently, glucocorticoids cause a de-

crease in the uptake of calcium and phosphate from foodstuffs — and this is compounded by increased kidney output. It is said that this can lead to secondary hyperparathyroidism and the bony pattern is said to be like osteoporosis rather than osteomalacia; there is increased bone resorption. The authors state that "Active osteoblasts are usually absent from the forming surfaces." One way that glucocorticoids may have an effect on bone is through the intermediary action of other hormones such as parathyroid hormone or Calcitonin or Calcitriol. The effects of glucocorticoids on tissue culture of bone collagen has been somewhat equivocal and is not well understood. One way that glucocorticoids may work is by decreasing the number of precursor cells that become osteoblasts. They may also inhibit the periosteal cells.

Insulin also has an effect on bone metabolism and this too has been reviewed by Raisz and Kream — diabetics have been known to have a decreased bone mass for many years. The exact cause for the osteopenia of diabetes mellitus is really not known according to these authors. It may work through altering the function of other hormones which affect bones; insulin or insulin lack may have a decreased metabolic affect on bones despite the fact that it is clear that in diabetes mellitus there is osteopenia. The exact way in which the insulin affects bone is unknown. As pointed out by Raisz and Kream, there are other hormones which affect bone including thyroid hormone, androgens, estrogens, and somatomedins — among others. For example, thyroid hormone seems to be necessary for bone growth. In hyperparathyroidism there is osteopenia and it would appear that it is due to bone resorption. The thyroid hormone has to work in conjunction with somatomedins for an optimal development of cartilage. The growth hormone is said by the authors to produce a graded bone response for which somatomedins may be an intermediary, and act as the agent which produces the response in bone. Some of the other factors which affect bone include epidermal growth factor, fibroblast growth factor, and platelet derived growth factor; these factors do not work in an entirely similar fashion.

The authors state that prostaglandins stimulate bone resorption and they postulate that prostaglandins may be the cause of the osteopenia and elevated blood calcium seen in the presence of



tumors. It is thought that the prostaglandin may have a local regulating role in bone metabolism. It is odd that in some concentrations, prostaglandins tend to inhibit bone collagen formation, whereas, in other concentrations, prostaglandins stimulate bone collagen formation. Prostaglandins are said to derive from bone cells and it is believed that osteoblasts are a particularly good source of prostaglandins. On the basis of some work done by the authors, they suggest that "the inhibitory effects of glucocorticoids may be mediated by inhibition of prostaglandin synthesis. Conversely, endogenous production may be responsible for maintaining bone formation in vivo.

The authors state that some factors from hematopoietic cells play an important role in bone growth. For example, certain lymphocytes seem to be able to bring about bone resorption and slow down or stop bone collagen formation in vitro; the authors further state that lymphocytes may be responsible for the osteopenia of cancer and its accompanying hyperglycemia.

It is also said in this interesting article that there are bone derived growth regulators. Raisz and Kream state that "Remodeling in response to

stress, as well as coupled changes in bone turnover, must be determined locally." There are local stimulators and local inhibitors of bone. Work is currently in progress on isolating these factors.

Lastly, certain ions act as regulators of bone metabolism, including calcium, phosphate, and other ions. Calcium is said to affect bone formation by "controlling the secretion of the calcium-regulating hormones, by mediating the intracellular effects of these hormones, by accelerating mineralization, and by stimulating matrix formation and cell proliferation directly." The authors make the interesting statement that phosphate may be more important than calcium in regulating bone metabolism — phosphate metabolism shows wide variations in the concentration in the blood. It has been known for a long time that a deficiency of calcium and phosphorous produces osteopenia. Magnesium deficiency is also said to have an adverse affect on bone growth, other ions may play a role.

This two-part review of Raisz and Kream's is an excellent brief summary of the regulation of bone formation.



## "From Other Years"\*

*Journal of the Arkansas Medical Society*

Vol. 5 No. 8 May, 1895 p. 379

*Minutes of the Twentieth Annual Session*

### MINUTES OF THE SECTIONS.

The minutes of the different sections in which the scientific work of the session was conducted, will be printed in the next issue of the JOURNAL.

### ENTERTAINMENTS.

On Thursday evening May 2, the visiting physicians and those accompanying them were the guests of the Little Rock Medical Society at a concert by the celebrated Sousa's Concert Band at the Glenwood Park Theatre.

On Friday afternoon May 3, the Little Rock Medical Society entertained the members of the State society, and the ladies accompanying them, on an excursion up the Arkansas River on board the Steamer Rees Pritchard and barges.

As Little Rock is the home of the JOURNAL it leaves to others to give an account of this feature

of the programme, and reproduces the subjoined from the *Little Rock Gazette* of May 4:

"One of the most enjoyable excursions and banquets of the season was that given on board the elegant steamer Rees Pritchard yesterday evening by the Little Rock Medical Society to their visiting brethren of the Arkansas Medical Society.

About 150 persons were on board, and it is safe to say that every one present enjoyed himself to the utmost. The boat left its Little Rock wharf at 5:30 o'clock, and after a run of three hours, during which the excursionists had ample opportunity for viewing the beautiful scenery along the river and enjoying the pleasant ride, supper was announced and the party repaired to the Pritchard's handsome new barge, which was then lashed alongside and there found a feast fit for the gods awaiting them.

After spending several moments in discussing the sumptuous viands and satisfying demands of

the inner man, Dr. F. Vinsonhaler as master of ceremonies, announced that the society had selected officers for the following year and also a place for the next meeting. Dr. Merriweather arose and announced the following officers: President, Dr. L. P. Gibson, of Little Rock; First Vice President, Dr. J. W. Hayes, of Marianna; Second Vice President, Dr. W. W. Hipolite, of Des Arc; Secretary, Dr. F. Vinsonhaler, of Little Rock; Treasurer, Dr. A. L. Breysacher, of Little Rock. Board of Censors: Dr. J. S. Shibley, Dr. W. B. Lawrence, Dr. J. A. Dibrell, Jr., Dr. J. T. Jelks, Mr. T. J. Wright. On Practice of Medicine: Dr. E. R. Dibrell, chairman and C. T. Drennen, secretary.

Dr. Gibson made a clever speech of acceptance, as also did Dr. Vinsonhaler. The election of officers met with universal approbation.

Fort Smith was selected as the next meeting place in May, 1896.

President Gibson then announced that all business being concluded a motion to adjourn was in order.

Dr. Whitmore moved that the society adjourn *sine die* which was done.

Dr. Vinsonhaler arose as toastmaster and proposed the toast "Our President-Elect" which was ably responded to by Dr. Gibson.

"Our Bachelor Brethren," Dr. Drennen treated in a feeling and sympathetic manner, for he is one of them, and trusted he would not be called on to perform the same duty at the next meeting.

"The Press," by Geo. W. Gunder, was a splendid production in verse and was well received.

"The Specialist and General Practitioner," by Dr. Hooper, was a little on the reminiscent order and was a very well-timed effort.

"Till We Meet Again" was down for a response by Dr. J. M. Keller, of Hot Springs, but he objected and preferred instead to speak to "The Ladies" and he did so in a happy strain.

Capt. Drake ordered the prow of his boat turned homeward, and the table removed from the floating banquet hall, while those who desired might trip the light fantastic to the inspiring strains of Sarlo's band.

The trip homeward by moonlight was all too quickly over and the gay and happy excursionists "walked the plank" with a sigh that such an evening should ever end.

To Dr. Vinsonhaler, as chairman of the arrangement committee, is due much of the credit for

the success of the occasion, and he will always be gratefully remembered by those fortunate enough to have been present.

Nothing too good can be said of the elegant Rees Pritchard with her clean and pretty fittings, electric lights, perfect handling and management, and her jolly master, Capt. L. P. Drake, who made it his personal duty to see that all on board his handsome boat got the full benefit of the trip. The Pritchard has had a lot of new barges built and Capt. Drake has cleaned and fitted up desirable picnic grounds at the foot of Palarm Hill, which has been named by him the "Rose City Pleasure Grounds" and the Pritchard will doubtless convey many pleasure parties up during the season. They are located twenty miles up the river and on the trip a good many views of beautiful scenery may be had.

This article would be incomplete without some account of the bounteous banquet served the medicos and their ladies. It was prepared by Mr. Heinze of 718 Main street, who superintended the serving on board, and the arrangement of the table etc., was looked after by Mesdames Dr. Scott, and Dr. Lindsey. For the caterer Mr. Heinze and the ladies, every one must have felt a tender spot for the splendid supper and the excellent manner in which it was served.

The doctors of Arkansas will remember for a long time the treatment accorded them by their brethren and the hospitable people of the City of Roses."

\*From the University of Arkansas for Medical Sciences Library, History of Medicine/Archives.



#### ANSWER—Electrocardiogram of the Month

**DISCUSSION:** One feels that the patient possibly is representative of a syndrome of sorts and, indeed, she has many historical and physical features of the Prader-Willi Syndrome. These patients an accasian will have pulmonary hypertension and right heart failure related in part to hypoventilation and abesity. The accentuation of the pulmonic component of her second heart sound is suggestive, but nat diagnostic of, pulmonary hypertension in her age group. S<sub>1</sub> gallops are often associated with some form of heart disease in young people. She has obvious risk factors for pulmonary emboli. Her ECG reveals sinus tachycardia, normal QRS duration, right axis deviation, and a prominent R-wave in V<sub>1</sub> with an increased R:S ratio. These features are compatible with right ventricular hypertrophy. The feature editor wishes to thank Dr. Charles Barth of the UAMS Department of Medicine for his assistance with this month's feature.



## MEDICINE IN THE NEWS



### THE MONTH IN WASHINGTON

#### Congress Faces Tough Budget Decisions After Summer Recess

For most of 1983, predictions of the imminent demise of the eight-year-old Congressional budget process have circulated in Washington.

And after a long summer recess, Congress once again faced the thorny issues raised by the budget. The fate of a spate of proposed Medicare changes — including limits on Medicare payments to physicians — may hang in the balance this fall.

Enacted in 1974, the never-easy Congressional budget process has grown progressively more difficult as the federal budget deficit climbed to \$200 billion and it became clear that only large tax increases, sizable reductions in popular entitlement programs, or both could make a dent in the deficit.

Never at ease with either of those tasks and facing an election year in which both the presidency and the majority of the Senate are at stake, many members in both parties would rather not take on the budget.

That has led to derisive comments from some such as Sen. Robert Dole (R-KS) who called the budget process this year a “floating craps game.” It has also resulted in the postponement of the key part of the budget game — “reconciliation” of the Congressional budget with program changes to achieve the spending and revenue balance.

An \$860 billion Congressional budget resolution approved earlier this year directed Congressional committees to find savings of \$12.3 billion and increase revenues by \$73 billion for fiscal years 1984-86. It set a July 22 deadline for completion of this part of the reconciliation process.

The deadline was pushed back to September 23, however, when both the House Ways and Means and Senate Finance Committees indicated they would not meet the target date. Now, Congress, if it is to have the budget in place by the beginning of the new fiscal year October 1, will have just three weeks to resolve the fundamental ideological differences that underlie the budget debate.

Perhaps the biggest stickler in the debate is the need to raise new taxes — a task for which both Finance and Ways and Means appear to have little stomach in a pre-election year.

Health programs, and Medicare in particular, will come in for a share in the controversy. The budget resolution calls for \$400 million in Medicare cuts next year and budget conferees specified that the cuts are not to come at the expense of beneficiaries.

On the other hand, the Reagan budget had called for about \$2 billion in Medicare reductions, some \$900 million of which would have come from freezing Medicare's customary and prevailing charge levels at the 1982/83 level. Most of the remainder was to come from increased costs to beneficiaries.

Debate during reconciliation may well center on the Medicare physician fee freeze backed by President Reagan. The Senate Finance Committee voted to finance health insurance for the unemployed through a limited physician fee freeze affecting only prevailing fees. Though that proposal is not likely to survive as a means of financing benefits for the unemployed, it may well be offered again as a Medicare reduction.

There are many who will argue that freezing payments to physicians defies the conferees' directive that Medicare reductions not affect beneficiaries, but few alternatives are available and Sen. Dole, who chairs the Finance Committee, is expected to contend that physician fee freezes may be one of the least onerous ways of meeting the budget targets. It is possible that a physician fee limit would be tied to provisions — such as changes in the Medicare assignment rules — intended to soften the impact on beneficiaries.

Health-related budget recommendations will come from the House Ways and Means and Commerce Committees in addition to Senate Finance. The House and Senate will have to approve their respective committees' recommendations. A House and Senate conference then must resolve any differences in the budget recommendations of the two bodies. Both chambers then have to give final approval to the conference commit-

tee's budget. Whether that can all be accomplished prior to October 1 is in doubt, although it is possible that Congress will, as it has once before, postpone final budget action until after the beginning of the fiscal year for which the budget is effective.

Once it has dealt with — or given up on — the budget reconciliation, Congress can move on to other issues. Chief among these will be the Health and Human Service Department's appropriations for fiscal 1984, reauthorization of the National Institutes of Health and, perhaps, health insurance for the unemployed and reauthorization of the federal health planning program.

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#### **Pro Draft Regulations By OMB**

Long-awaited regulations for the Professional Review Organization (PRO) program finally have been cleared by the Office of Management and Budget.

But the proposed regulations are so vague, that they provide little guidance to the many groups lining up for one of the 52 new two-year contracts to scrutinize the care of hospitalized Medicare and Medicaid patients. Interested parties were awaiting completion of bidding principles and specifications that were available late in August. The bidding principles may be more easily modified in the future than the regulations.

The regulations will help implement legislation adopted in September of 1982. That law, sponsored by Sen. David Durenberger (R-MN), created PROs to replace Professional Standards Review Organizations (PSROs) established in 1972 to review Medicare and Medicaid patients' care.

The regulations, which establish new geographic areas of operation for PROs and outline eligibility criteria for organizations proposing to become PROs, leave in doubt the specifics of how eligible organizations will be judged against each other and even exactly how many PROs there will be.

In most instances, PROs would operate on a statewide basis, with the 194 geographic areas now in effect for PSROs being cut to about 52 — one for each state, plus one for the District of Columbia and one for the Virgin Islands and Puerto Rico. The Health Care Financing Administration (HCFA) also is considering merging PROs in Alaska, Delaware, Nevada, Vermont, and Wyoming with PROs in adjacent states.

The new regulations would permit organizations composed of only 5% of the licensed practicing physicians in the area to qualify as PROs. If at least 10% of the area physicians participated in a proposed PRO, it would automatically be deemed "representative" of physicians in the area. If more than 5% but less than 10% participated, the group would have to submit statements of support from other physicians to demonstrate that it is "representative."

Organizations that are not physician-sponsored but had "available" — through "arrangement" or otherwise — sufficient numbers of licensed physicians in the area to assure "adequate" review of services are considered "physician access organizations" and can qualify as PROs. The regulations do not specify how the organizations are to assure "availability." To prove they can conduct "adequate" review, physician access organizations must have at least "one physician in every generally recognized specialty."

Payer organizations such as insurers could not bid on PRO contracts in areas where they pay the bills until after October 1, 1984. Apparently, however, they could bid on PRO contracts prior to that time, if they had 5-10% physician involvement and bid for contracts in areas where they did not pay the bills.

States also could compete for PRO contracts because operation of a state Medicaid program would not disqualify them as a payor, the regulations say. If the state had some other health insurance underwriting arrangements, it would be prohibited from bidding before October 1, next year.

Even after that date, physician-sponsored and physician access organizations that submit a "minimally acceptable" plan would still have preference over a payer organization. Hospitals or other facilities within the PRO area could not become PROs.

In evaluating the bid proposals, HCFA first will identify eligible organizations, determine which have "minimally acceptable" plans, and "assign priority to all physician-sponsored organizations" by awarding them a "set number of bonus points" to be enumerated in the principles and specifications to be published later.

Eligible bids then will be evaluated and compared on the basis of whether the organization's proposed review system is "adequate," its review resources "sufficient," and its "quantifiable ob-



jectives acceptable." Prior experience will be considered.

No criteria for determining "adequacy" of the review system or "sufficiency" of the review resources are included. Nor is there any guidance on what constitutes an acceptable objective.

These, too, are expected to follow as bidding principles or "scope of work" criteria which will identify how much weight will be placed on various factors such as cost of review, past experience and preference for physician sponsorship. They will outline the expected duties of the PROs, such as validating diagnoses to assure that hospitals are not circumventing Medicare's new diagnostic-related groups payment arrangement. They also will lay out the objectives PROs are expected to meet.

The "scope of work" provisions would then be followed by an announcement of the availability of the specific requests for (bid) proposals in the PRO areas.

HCFA staff says the RFPs may be issued in November or December. The first contracts are expected to be awarded next spring.

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#### **Unemployed Health Insurance Competition Looms**

Setting the stage for a confrontation with the Reagan Administration, the House of Representatives voted in August to provide states \$4 billion for a two-year health insurance plan for the unemployed (HIU).

The measure, which would expire October 1, 1985, would distribute grants to states according to several unemployment measures and contingent upon matching state funds of up to 20%. States would be required to meet minimum eligibility and benefit standards and could impose premiums of up to 5% of unemployment compensation.

The House bill is more costly than either of two major bills before the Senate where action on HIU was waiting upon Congress' return from a summer recess. The House measure does not include the financing mechanism the Reagan Administration has insisted is needed for presidential approval of an HIU plan.

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#### **Kennedy Would Cover Physicians Under DRGs**

Sen. Edward Kennedy (D-MA) plans to introduce legislation sometime in September that would extend Medicare's new prospective pricing

system to physician services in the hospital.

The proposal is part of a "Medicare rescue plan" Kennedy outlined to the National Council of Senior Citizens in August. Kennedy said that between 1985 and 2005, Medicare is expected to rack up a deficit of \$1,018 billion and he estimated his plan would produce savings of slightly more than that — \$1,047 billion — over the same period.

Basically the plan would extend Medicare's new diagnostic-related group (DRGs) prospective pricing scheme for hospitals to other payers as well. It would expand the DRG system by including in-hospital physician services. It also would attempt to encourage hospitals to shift treatment from inpatient to outpatient facilities by ratcheting down reimbursement for increased admissions. DRG rates would rise each year by 1% more than the market basket for goods and services purchased by hospitals.

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#### **HHS Heeding Grace Commission**

Department of Health and Human Services Secretary Margaret Heckler has ordered a hiring freeze in her office and is said to be contemplating cutting 20% of the more than 5,700 jobs in the Department as well.

In announcing her decision, Heckler called it the "first step in carrying out the general objectives of the Private Sector Survey on Cost Controls." Also known as the Grace Commission, the Private Sector Survey called for a reduction of 1,674 full-time positions in the Secretary's office.

The Commission, whose wide-ranging suggestions for reducing federal spending included testing the use of physician fee schedules in Medicare, had suggested that the Secretary's staff be reduced by decentralizing the office and leaving research and policy activities of the office to the Health Care Financing Administration, Social Security and Human Development Services.

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#### **Dioxin Studies Reported to Congress**

Seven herbicide workers have died from soft-tissue sarcoma, increasing the body of evidence linking this rare form of cancer to dioxin exposure, federal health officials told members of a House Science and Technology subcommittee in August.

Herbicide manufacturing companies Dow Chemical and Monsanto reported 3 of 105 deaths, or 2.9%, were due to soft-tissue sarcoma. Based on the incidence of this cancer in the general

population, only 0.07% deaths would have been expected. A recent fourth death among workers pushes the incidence still higher. Company officials confirm that all of the dead workers had been exposed to dioxin.

An additional three deaths among herbicide workers due to this rare form of cancer were detected by outside physicians. But because it has not been confirmed that these workers were exposed to the chemical, they cannot be categorized with the other deaths.

Two of the dead Dow workers were accidentally over-exposed in 1963-64 when a manufacturing malfunction released large amounts of the chemical. Two of the dead Monsanto workers may have been involved in the cleanup of a 1949 explosion that is thought to have spread chemicals.

"Each of the company studies concluded nothing. But by putting the studies together, you see a different picture," said Marilyn Fingerhut, Ph.D. of the NIOSH Division of Surveillance.

"To be absolutely certain that there is a cause-and-effect relationship" between dioxin exposure and cancer, "we need to investigate more cases. This work only supports an association," said Phillip J. Landrigan, M.D., Director of the NIOSH group, "but to me, the evidence is very strongly suggestive that occupational exposure to dioxin can cause cancer."

Concluded Edward N. Brandt, Jr., M.D., Assistant Secretary for Health at the Department of Health and Human Services: "There is an increasing body of evidence that there may be an association in workers between exposure to products containing dioxin and soft tissue sarcomas; however, results thus far do not establish a cause and effect relationship. Further studies are necessary before we can determine whether or not this association is casual."

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#### **New Medicare/Medicaid "Fraud" Regulations Take Effect September 26**

New regulations — set to go into effect September 26, 1983 — will penalize physicians, hospitals and other health care providers who file false Medicare and Medicaid claims.

The regulations permit the Department of Health and Human Services to suspend providers who file false or improper claims from participation in Medicare and Medicaid. In addition, HHS may impose assessment of up to twice the amount of the improper claim and add a penalty

of up to \$2,000 for each medical item or service improperly claimed. The length of the suspension and amount of the penalties will vary according to the case.

HHS Inspector General Richard Kusserow said the new regulations, which implement the Civil Monetary Penalties Law of 1981, were necessary because the Justice Department traditionally has declined to prosecute many Medicare and Medicaid fraud cases due to a backlog of cases and the relatively small amounts of money involved in individual cases. For instance, Kusserow said, in the first six months of this year, Justice turned down 60 of 198 cases HHS asked it to prosecute. He estimates that the new law could save the government up to \$1 billion a year.

Published in the August 26 *Federal Register*, the regulations give HHS the right to impose sanctions for up to five years from the date the fraudulent claim was filed. The sanctions also could be applied to claims filed before the law was implemented on August 13, 1981.

A provider may appeal the suspension or sanctions by filing his intent to do so within 30 days from the date he is notified of the intended action. Appeals will be heard by a government administrative law judge. The case then may be appealed to the HHS Secretary and then to the civil courts. Records of the case are available to the public as the action occurs.

HHS Secretary Margaret Heckler said the new law "should convince those who are tempted to cheat the government that the punishment far outweighs the benefits of the crime."

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#### **Hospice Regs Published**

The Reagan Administration on August 22 published new Medicare payment rates for hospices that are much greater than those in earlier draft regulations which prompted Congressional hearings.

The draft regulations which created a furor earlier this year would have capped expenditures per hospice patient at \$4,232 and set prospective rates at \$53 per day for hospice home care and \$57 per day for inpatient hospice care; acute inpatient care was to be paid at the new diagnostic-related groups (DRG) rates Medicare will start for hospitals in October.

In a turn around attributed to Health and Human Services Secretary Margaret Heckler, the new regulations eliminate the DRG payment to hos-



pices and set an average daily inpatient rate of \$271 a day. They also upgrade staffing requirements and require hospice physicians to deliver care — not just serve as administrators. They do not change the overall cap, but promise to do so if legislation to increase it is approved.

The proposed new regulations are the product of intense negotiations between the National Hospice Organization, the Congress and Secretary Heckler, herself a sponsor of the legislation which created hospice benefits while she was a member of Congress.

They represent a defeat for Office of Management and Budget Director David Stockman who claimed the benefit will cost Medicare \$350 million over the next three years and proposed to restrict hospice coverage. Stockman also asked Congress to leave the cap at \$4,332.

Instead, Congress voted to increase the cap to \$6,500 and President Reagan reportedly has agreed to sign the new measure.

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#### **Surgeon General Claims Three Babies Saved By "Baby Doe" Investigators**

Surgeon General Everett Koop, M.D., attempting to muster support for the government's latest "Baby Doe" proposals, told the press that government investigators saved the lives of three handicapped newborns this summer.

The three newborns — one with spina bifida, another with spina bifida and hydrocephalus, and a third with hydrocephalus and an imperforate anus — were denied food and treatment in June, according to the Surgeon General's office. The cases were confirmed by pediatric neurosurgeon David McLone, M.D. In all cases, consultation by government-appointed physicians convinced the infants' parents or guardians to consent to treatment, the government claims.

In the first case, the hospital promptly initiated surgery to repair the membrane on the child's back. In the second case, a hospital that did not have the capability of doing surgery referred the infant to a second hospital that refused to do the operation. The Spina Bifida Association became the temporary court-appointed guardian and transferred the child to a medical center which closed the exposed spinal cord and implanted a shunt to drain fluid from the brain. In the third case, a shunt implantation and colostomy were undertaken two days after the start of the investigation.

Neither the names nor the locations of the infants were disclosed.

According to McLone, a member of the Chicago-based region five team, physicians were not intentionally withholding treatment; they simply were unaware that new advances in spina bifida surgery could help, he said. "Government dissemination of information benefited the patient, the parents, and the physician. In this way, the government was the prime mover in changing the outcome of the case," he said.

But according to Surgeon General Koop, the infants were not fed because it was decided that their prognosis was poor. "In fact, they were top candidates for surgery and are doing quite well. Somehow, they slipped through the net," said Koop.

"We have successfully investigated and seen successful outcomes of three cases that were reported to us, and two of those were reported by nurses. I think a Baby Doe hotline is a very effective mechanism," said Koop.

News of the three cases came at a politically sensitive time as Congress, the courts, and the Reagan Administration are all considering various versions of Baby Doe-style regulations. A new Department of Health and Human Services (HHS) rule, revised after being defeated in court by the medical community, again requires that hospitals post notices warning that it is illegal to withhold medical treatment or sustenance from handicapped newborns. In Congress, two pieces of legislation require that states, as a condition of receiving child abuse grants, develop procedures to insure that proper medical services are provided.

The medical community has questioned the need for the squad-team approach. "We've always felt that it is the role of the government to distribute information and act as a clearinghouse, not deal with it through law enforcement mechanisms. The problem is education, not maliciousness," said an AMA spokesman.

Says Stephan E. Lawton, attorney for the American Academy of Pediatrics: "Rather than have the Surgeon General's office manning telephones across the country and sending untrained police into nurseries, there should be an educational program that is assisted by ethical review committees with special expertise."

Among other investigations recently completed:

- Strong Memorial Hospital in Rochester, NY:

a caller alleged that physicians were denying care to Siamese twins. The federal investigation revealed no wrongdoing.

- Yale/New Haven Hospital in New Haven, CT: The newspaper reported neglect of 20 handicapped infants. After an 18-month investigation involving more than 200 medical records, federal officials found no wrongdoing.

- Vanderbilt Hospital in Nashville: An anonymous caller charged that 10 children were not being fed or provided proper medical treatment. Federal investigation found no wrongdoing.

- Good Shepard Hospital in Barrington, IL: The Family Life League complained about failure to provide treatment to handicapped babies. Federal investigators found a child with a wide range of congenital defects unassociated with any chromosomal defect, and could not identify any procedures that might have changed the child's outcome.

- Bloomington Hospital in Bloomington, IN: An infant born with Down's Syndrome with esophageal atresia, with a likelihood of lower tracheoesophageal connection, was allegedly denied treatment and sustenance. A judge ruled that the state failed to show that the child's physical or mental condition was seriously impaired

or endangered as a result of neglect of food or medical care.

- Crawford Memorial Hospital in Robinson, IL: An anonymous phone call from a nurse to Laura Channing of the Family Life League alleged neglect of a spina bifida baby. Investigators found no emergency need for surgery, noted the risk associated with surgery, and noted that the parents refused to have the surgery performed. According to investigators, the hospital provided all the medical treatment of which they were capable.

- Kapiolani-Children's Medical Center in Honolulu: An infant born with Downs Syndrome and an intestinal obstruction allegedly was denied treatment. Although the hospital changed its written consent procedures as a result of the investigation, no wrongdoing was found.

- St. Francis Hospital in Tulsa, OK: A student nurse alleged that the hospital denied nourishment and water to a baby with hydrocephalus and transposition of the Great Vessels. Investigators said the allegation was not supported by medical opinion and that care was consistent with the diagnosis.

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## OBITUARY

### DR. CARL R. PARKERSON, SR.

Dr. Parkerson of Hot Springs died September 23, 1983. He was born July 2, 1924, in Norman.

Dr. Parkerson was a graduate of the University of Arkansas at Fayetteville and a 1957 graduate of the University of Arkansas College of Medicine. His internship was with St. Vincent's Infirmary in Little Rock.

Dr. Parkerson was a veteran of World War II, a member of the Southern Medical Association and a charter member of Oaklawn Rotary Club. He was chief of staff of Ouachita Memorial Hospital.

He is survived by his wife, Mrs. Rita S. Parkerson, two sons and two daughters. His brother, Dr. Cecil Parkerson, practices in Hot Springs.

### DR. WILLIAM A. SNODGRASS, JR.

Dr. Snodgrass, formerly of Little Rock, died October 7, 1983. He was born in Little Rock on April 14, 1903.

Dr. Snodgrass was a graduate of the University of Arkansas and a 1930 graduate of the University of Arkansas College of Medicine.

He was a past president of the Arkansas Medical Society and the Arkansas Academy of Family Physicians. From 1953 to 1971, Dr. Snodgrass served on the Arkansas State Board of Medical Examiners.

During World War II, Dr. Snodgrass was medical director during construction of the Pine Bluff Arsenal and the Lion Chemical Plant in El Dorado. He had practiced in Little Rock before his retirement in 1971.

Dr. Snodgrass is survived by his wife, Mary Jane Moseley Snodgrass, and his two sons, Dr. Phillip A. Snodgrass of Mobile, Alabama, and William A. Snodgrass, III, of Little Rock.



# keeping up

## Category 1 Continuing Medical Education Programs Available in Arkansas

### EMERGENCY MEDICINE UPDATE

Presented by Marvin Leibovich, M.D., *November 17, 7:15 a.m. to 5:30 p.m. and November 18, 8:00 a.m. to 5:30 p.m.*, Shuffield Auditorium, Baptist Medical Center. 17 hours Category I credit. Fee: physicians \$150; nurses, paramedics and other health related personnel \$50.

### FAMILY PRACTICE UPDATE

Presented by Ben N. Saltzman, M.D., Department of Family and Community Medicine, UACM, *December 3, 8:00 a.m. to 4:45 p.m.*, Ed. II, Room G/131B, University of Arkansas for Medical Sciences Campus. Seven hours Category I credit. Registration fee \$40.

### ATLS CONFERENCE

Presented by Pat Osam, M.D., Arkansas Committee on Trauma of the American College of Surgeons, *December 3-4, 8:00 a.m. to 6:00 p.m.*,

Ed II Building, University of Arkansas for Medical Sciences Campus. 16 hours Category I credit. Registration fee \$375.

### PARENTERAL NUTRITION SUPPORT OF THE HOSPITALIZED PATIENT

Presented by Krishnan Sirran, M.D., Department of Surgery, University of Chicago Medical Center, *December 15, 7:00 p.m.*, In-Service Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### PRACTICAL ASPECTS OF OFFICE CHEMOTHERAPY

Presented by Frank J. Panettiere, M.D., FACP, Medical Oncologist, Rogers, Arkansas, *January 17, 7:00 p.m.*, Educational Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

#### EL DORADO — AHEC - SOUTH ARKANSAS

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center.

#### FAYETTEVILLE — VA MEDICAL CENTER

*Pathology Conference*, second Thursday, 3:00 p.m., Conference Room.

#### JONESBORO — AHEC - NORTHEAST

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.

*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

*Monthly Perinatal Conference*, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Weekly Medical Lecture Series*, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.

*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Arkansas Methodist Hospital CME Conference*, last Friday, 7:00 a.m., AMH, Paragould.

#### LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Second Floor Classroom.

*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Second Floor Classroom.

*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Polly Thomas Dining Room.

*Infectious Disease Conference*, second Wednesday, 12:00 noon, Second Floor Classroom.

*Pediatric Pharmacology Conference*, third Wednesday, 12:00 noon, Second Floor Classroom.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

## KEEPING UP

*Problem Case Conference*, each Thursday, 12:00 noon, Second Floor Classroom.

*Primary Care Seminar and Case Presentation*, each Friday, 12:00 noon, Second Floor Classroom.

### LITTLE ROCK — BAPTIST MEDICAL CENTER

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.

*Emergency Medicine Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.

*Case of the Month*, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

*General Internal Medicine Conference*, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

*Renal Conference*, fifth or last Wednesday each month, 12:00 noon to 1:00 p.m., Conference Room #1. (When there are four Wednesdays in the month, conference will be on fourth Wednesday and there will only be one Case of the Month Conference.)

*Morbidity and Mortality Conference*, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

*Surgery Conference*, second, third, fourth and fifth Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.

*Cardiology Conference*, fourth Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.

*Cardiopulmonary Resuscitation Course*, fourth Thursday, 7:00 p.m. to 1:00 a.m., Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

### LITTLE ROCK — ST. VINCENT INFIRMARY

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.

*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.

*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.

*Gynecology Conference*, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors Hospital.

*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory.

*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.

*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E-159 Education Wing.

*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.

*Cardiology Conference*, fourth Thursday, 12:00 noon to 1:00 p.m., Room E-155, Education Wing.

### LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

*Grand Rounds Series*, each Thursday, 12:00 noon to 1:00 p.m., Child Study Center Auditorium.

### TEXARKANA — AHEC SOUTHWEST

*Tumor Conference*, first Wednesday, 7:00 a.m., St. Michael Hospital.

*Chest Conference*, third Wednesday, 12:30 p.m., St. Michael Hospital.

*Regional Nephrology Conference*, fourth Wednesday, 7:00 a.m., St. Michael Hospital.



## PERSONAL AND NEWS ITEMS

### ORTHOPAEDIC SURGEONS IN VAN BUREN

Drs. Jean-Pierre Michaud and Paul L. Raby have opened the Western Arkansas Sports Medicine and Orthopaedic Clinic at 2020 Chestnut in Van Buren.

### DR. BRESSINCK ELECTED

Dr. Renie Bressinck was elected president of the Arkansas Dermatologic Society during the Society's annual meeting. Dr. Bressinck has been in the private practice of Dermatology in Little Rock since 1977. He is a diplomate of the American Board of Dermatology and a Fellow of the American Academy of Dermatology. Dr. Phil Hardin of Mountain Home had served as president preceding Dr. Bressinck.

### DR. GRAY LOCATES

Dr. Thomas L. Gray has joined Dr. H. Wade Westbrook at East Arkansas Women's Clinic in West Memphis for the practice of Obstetrics and Gynecology.

### DR. SALTZMAN SPEAKS

Dr. Ben Saltzman of Little Rock spoke to the Dardanelle Rotary Club about his recent trip to Russia and China. Dr. Saltzman was the leader of a group of Arkansas physicians for the trip sponsored by the People-to-People International Organization.

### DR. DICKSON

Dr. Glen Dickson of Jonesboro each Saturday directs an injury clinic for high school football



players injured during Friday night games. Dr. Dickson is an Orthopaedic Surgeon and the team physician for Arkansas State University.

#### **DR. JOHNSTON BEGINS PRACTICE**

Dr. Greg Johnston, a native of Benton, has joined his stepfather, Dr. David Stewart, and Dr. Martin Kirk at Benton Family Clinic.

#### **DR. GORDON**

Dr. Thomas Gordon has opened an office for the practice of General Medicine at 109 North Union in DeWitt.

#### **DUMAS GAINS PHYSICIANS**

Dr. Inelda P. Talao and Emilio R. Linchoa have opened offices in the Southeast Arkansas Medical Center at Dumas.

#### **DR. DAVIDSON IN BATESVILLE**

Dr. Andy Davidson, a Family Physician, has opened an office in Dr. Gray's Hospital in Batesville.

#### **DR. POTTS RELOCATES**

Dr. Jerry L. Potts, formerly of Little Rock, has relocated to 3629 McCain Boulevard in North Little Rock.

#### **DR. WALLACE ELECTED**

Dr. Oliver Wallace of Green Forest is the new chief of staff at Carroll General Hospital in Berryville. Other officers are Dr. Paul Bubak, chief of staff elect, and Dr. Ralph Williams, secretary.

#### **DR. BILLIE**

Dr. James D. Billie has joined Drs. J. Thomas Smith and Guy F. Gardner of the Affiliated Ear, Nose and Throat Clinic of Arkansas at 330 Medical Towers Building in Little Rock.

#### **DR. STAHL SPEAKS**

Dr. Ray Stahl of Mountain Home was recently guest speaker for the Twin Lakes Chapter of the United Ostomy Association.

#### **DR. BAXLEY ELECTED TO FELLOWSHIP**

Dr. Paul Baxley of North Little Rock has been elected to the Fellowship of the American College of Physicians. He will be honored during the College's convocation ceremony at the annual meeting in Atlanta next April.

#### **DR. NEIL COMPTON**

Dr. Compton of Bentonville was a speaker during a program on "Man's Impact on the Ozarks," sponsored by the Arkansas Wildlife Federation. Dr. Compton gave an analysis, using non-technical terms, of changes he has seen during his lifetime.

#### **DR. HORNSTEIN**

Dr. Lee S. Hornstein has opened his office at 3100 Apache Drive in Jonesboro. He specializes in Pediatrics.

#### **DR. FIZER SPEAKS**

Dr. Robert H. Fizer, Chairman of the Department of Pediatrics at the University Medical Center, spoke at a recent meeting of the Arkansas River Valley Chapter of the American Diabetes Association. He spoke on developments in the treatment and care of diabetes.

#### **DR. TIDALGO**

Dr. Ralph J. Tidalgo has joined Dr. Swan B. Moss at the Memorial Clinic in McGehee.

#### **CLINIC RECEIVES FUNDING**

The Arkansas Oncology Clinic, headed by Dr. Billy L. Trantum of Little Rock, has received funding as part of a new Community Clinical Oncology Program by the National Cancer Institute. The clinic was one of 59 community hospitals in 32 states to receive the funding.

The program is designed to combine physicians' expertise with continuing research projects and to introduce the newest clinical research findings at the community level.

#### **DEPARTMENT CHAIRMEN NAMED**

The University of Arkansas College of Medicine has announced that Dr. Jere D. Guin has been named Chairman of the Department of Dermatology. He will serve a joint faculty capacity with the College of Medicine and the Veterans Administration Medical Center facilities in Little Rock and North Little Rock.

The College has also announced the appointment of Dr. Franklin C. Miller as Chairman of the Department of Obstetrics and Gynecology. Dr. Miller will also serve as chief of Obstetrical-Gynecological services at University Hospital.

Dr. Robert W. Barnes has been appointed as the new Chairman of the Department of Surgery.

#### **DR. DeROSSITT SPEAKER**

Dr. James P. DeRossitt, III, of Wynne was guest speaker at a "For Women Only" program sponsored by the Cross County American Cancer Society.

#### **DR. STUBBLEFIELD LOCATES**

Dr. Wayne Stubblefield has joined Dr. John L. Gustavus for the practice of Family Medicine at 2007 Fendley Drive in North Little Rock.

**DR. HADAD SPEAKS**

Dr. Anibal Hadad of Pocahontas spoke to the Kiwanis Club on the medical dangers of smoking.

**DR. THOMAS LOCATES**

Dr. Robert Thomas, who specializes in Family Practice, has opened an office on Highway 62-167 near Hardy.

**DR. PHAM RELOCATES**

Dr. Anli Pham, formerly of Little Rock, has

returned to Portland. His office is in the Portland Health Care Clinic.

**DR. GUIDRY IN FORREST CITY**

Dr. Lawrence J. Guidry has opened an office at 1600 Lindauer in Forrest City. His specialty is Urology.

**DR. BAKER IN BATESVILLE**

Dr. Robert V. Baker, Jr., a native of Marshall, has joined Dr. John Scott at the Batesville Family Practice Clinic.

**NEW  
MEMBERS****DR. ABRAHAM KARROTTUKUNNEL**

Dr. Karrottukunnel, a native of India, is a new member of the Ashley County Medical Society.

He was graduated in 1964 from St. Thomas College Palai and in 1970 was graduated from the Kottayam Medical College, Kerala University, Kottayam, Kerala, India. Dr. Karrottukunnel served his internship at the Kottayam Medical College Hospital.

From 1971 to 1976, he was in private practice in India and from 1976 to 1977 he practiced in Ethiopia.

Dr. Karrottukunnel trained in Pediatrics at Lincoln Hospital in New York from 1978 to 1979. He received further training at St. Peter's Hospital in New Brunswick, New Jersey, from 1979 to 1982. From 1981 to 1982, he served as a clinical instructor at Rutgers Medical School. He is an Associate member of the American College of Physicians.

Dr. Karrottukunnel was medical director of the Portland Health Care Center in Portland, Arkansas, for approximately a year.

Dr. Karrottukunnel specializes in Internal Medicine. His office is located on East Lincoln Street in Hamburg.

**DR. WILLIAM C. WILSON**

Dr. Wilson has joined the Garland County Medical Society. He was born in Graham, Texas.

Dr. Wilson received his pre-med education at Texas Tech University in Lubbock and the University of Texas at Austin. He is a 1968 graduate of the University of Texas Medical Branch in Galveston. His internship was with R. E. Thomason General Hospital in El Paso.

Dr. Wilson practiced for thirteen years in Post, Texas, before moving to Hot Springs.

Dr. Wilson specializes in Family Medicine. His office is in the West Side Professional Building at 101 Doris Lane in Hot Springs.

**DR. TIMOTHY F. BUMPAS**

Dr. Bumpas, a native of Winfield, Kansas, has joined the Garland County Medical Society.

He received a Bachelor of Science degree in Biology in 1973 from Friends University in Wichita, Kansas. Dr. Bumpas is a 1976 graduate of the University of Kansas School of Medicine. He was in a Radiology Residency at Wesley Medical Center at Wichita from 1977 to 1979. From 1980 to 1982, he served an Emergency Medicine residency at the University of Kentucky. Dr. Bumpas moved to Hot Springs in 1982.

Dr. Bumpas specializes in Emergency Medicine and practices at Ouachita Memorial Hospital in Hot Springs.

**DR. CHARLES H. LAHR**

Dr. Lahr is a new member of the Pope County Medical Society. He was born in Akron, Ohio.

Dr. Lahr received his pre-med education at Oberlin College in Oberlin, Ohio. He attended Ohio State University Graduate School for one year.

He is a 1955 graduate of Ohio State University College of Medicine in Columbus. After an in-



## NEW MEMBERS

ternship at San Joaquin County Hospital in Stockton, California, Dr. Lahr served for two years with the United States Navy. His residency training was with San Joaquin County Hospital and the University of California in San Francisco. He is board certified in Obstetrics and Gynecology.

From 1961 to 1975, Dr. Lahr was in private practice in Livermore, California. From 1975 to 1983, he was a member of the United States Navy. Dr. Lahr has also served as an assistant professor at the Medical University of South Carolina in Charleston.

Dr. Lahr is a member of the American College of Obstetrics-Gynecology and the American Society of Gynecology Laparoscopists.

Dr. Lahr specializes in Obstetrics and Gynecology. He is associated with the Millard-Henry Clinic at 3105 West Main in Russellville.

\* \* \* \*

The Pulaski County Medical Society has three new members:

### **DR. FERNANDEZ AGUSTIN**

Dr. Agustin was born in San Juan, Puerto Rico.

He was graduated from Villanova University, Pennsylvania, in 1974. In 1978, Dr. Agustin was graduated from the University of Puerto Rico School of Medicine, San Juan. His internship and Internal Medicine residency were with the University of Arkansas Medical Center. He is certified by the American Board of Internal Medicine.

Dr. Agustin specializes in Gastroenterology. His office is located at 2000 Fendley Drive in North Little Rock.

### **DR. W. O. GREEN, III**

Dr. Green is a native of Little Rock.

His premedical education was with the University of Arkansas at Fayetteville. Dr. Green is a 1979 graduate of the University of Arkansas College of Medicine. He trained in Obstetrics and Gynecology at the University from 1979 to 1983.

Dr. Green specializes in Obstetrics and Gynecology. His office is at 1924 Fendley in North Little Rock.

### **DR. D. W. HUNTON**

Dr. Hunton, a native of Little Rock, was graduated from the University of Arkansas at Fayetteville in 1974. He received his medical degree from the University of Arkansas College of Medicine in 1978. Dr. Hunton trained in General Surgery from 1978 to 1983 at the University.

Dr. Hunton, a General Surgeon, has established his office at 320 Doctors Park Building in Little Rock.

\* \* \* \*

### **DR. D. FRANK OSBORNE**

Dr. Osborne has joined the Sebastian County Medical Society. Dr. Osborne was born in Louisville, Kentucky.

He is a 1970 graduate of the University of Kentucky in Lexington and a 1974 graduate of the University of Kentucky College of Medicine.

Dr. Osborne served his internship at the Indiana University Hospitals in Indianapolis and his residency with the University of Arkansas Medical Center.

Upon completion of his residency, Dr. Osborne worked with the Native Health Service in Anchorage, Alaska. Dr. Osborne then served a Fellowship with Aspen Orthopaedic Association in Colorado. From 1979 to 1983, he was in private practice in Gunnison, Colorado.

Dr. Osborne specializes in Orthopaedic Surgery and is certified by the American Board of Orthopaedic Surgery. He is associated with Drs. Stanton, Wideman and Alberty in Suite 418 at 7303 Rogers Avenue in Fort Smith.

### **DR. R. BRONSON STILWELL**

A new member of the Washington County Medical Society, Dr. Stilwell was born in Dallas, Texas.

In 1973, he was granted his Bachelor of Arts degree from Rice University in Houston. He is a 1977 graduate of the University of Texas Medical School at San Antonio. From 1977 to 1979, Dr. Stilwell was a Pediatric resident at the University of Texas Health Science Center in Houston; and from 1979 to 1981, he was a resident of General Psychiatry at the same institution. He held a teaching fellowship in Child and Adolescent Psychiatry at the University of Texas Health Science Center in Dallas from 1981 to 1983.

Dr. Stilwell is medical director of the Adolescent Psychiatric Unit at Charter Vista Hospital in Fayetteville. His mailing address is 4171 Cross-over Road, Suite E.

### **DR. JOSE H. RODRIGUEZ**

Dr. Rodriguez is another new member of the Washington County Medical Society. He is a native of Puerto Rico.

He received a Bachelor of Science degree in 1974 from the University of Puerto Rico at Maya-

## NEW MEMBERS

guz. He is a 1978 graduate of the University of Puerto Rico School of Medicine at San Juan. Dr. Rodriguez served his internship with St. Joseph Hospital in Flint, Michigan.

Dr. Rodriguez practiced from August to October 1979 as a general practitioner in the outpatient clinic and emergency room for Patillas Health Center in Puerto Rico. From 1979 to 1981, he served with the National Health Service Corps (NHSC) as a commissioned officer of the Public Health Service in Patillas; he was medical director for the Patillas Health Center during 1980. From 1981 to 1982, Dr. Rodriguez served with the NHSC as a commissioned officer of the Public Health Services at Naranjito Health Center and as a clinical preceptor for the American Medical Student Association with the University of Puerto Rico School of Medicine and University of El Caribe School of Medicine. He was also a lecturer at "La Montana" Corporation on Hypertension. In the latter part of 1982 and early months of 1983, he practiced at the Calhoun County Hospital and Clinic in Hampton.

Dr. Rodriguez practices general medicine in

association with Dr. Robert Etherington at 41 Kingshighway in Eureka Springs.

\* \* \* \*

### Resident Members

The Sebastian County Medical Society has added two resident members to its roll:

#### DR. JIMMY D. ACKLIN

Dr. Acklin, a graduate of the University of Arkansas College of Medicine, is in Family Practice training with the Area Health Education Center in Fort Smith. His pre-med education was with the University of Arkansas.

#### DR. TERRY CLARK

Dr. Clark was graduated from the University of Texas Medical School in 1982. He is now a Family Practice resident with AHEC in Fort Smith.

#### DR. N. VAN HOANG

Dr. Hoang is also in Family Practice training in Fort Smith. He is a 1974 graduate of the University of Saigon Medical School. Dr. Hoang served his internship with the University of Arkansas College of Medicine.

THINGS



TO  
COME

The Department of Anatomy at the University of Arkansas College of Medicine has announced the following lectures:

#### November 17

*"Neural Transplantation in the Spinal Cord of Adult Rats."* Dr. Gopal Das, Professor of Biology, Purdue University.

#### January 19, 1984

*"Cytochemical Studies of Neuropeptide Receptors in the Anterior Pituitary Gland."* Dr. Gwen V. Childs, Professor of Anatomy, University of Texas Medical Branch.

The lectures will be held at 4:00 p.m. in the Education II Building, Room G 141. For further information, contact Robert D. Skinner, Ph.D., at 4301 West Markham, Slot 510, Little Rock 72201.

#### June 14-17, 1984

*The International Congress for Hair Replacement Surgery*, June 14-16. Sponsored by the American Association of Cosmetic Surgeons. Plaza Hotel, New York City.

Advanced seminar in hair replacement surgery on new and improved procedures by international-known hair replacement surgeons. The program will feature multi-discipline speaker participants with keynote addresses and panel and participant discussions. FREE PAPERS of 5 to 15 minutes in length are requested for selection.

*The American Association of Cosmetic Surgeons*, June 16-17. Plaza Hotel, New York City.

Topics will include most advanced techniques and trends dealing with Body Contouring, Liposuction techniques, Lasers and Computers, Cosmetic blepharoplasty, Rhytidectomy and Outpatient Surgery facilities.

For additional information, contact Dr. D. B. Stough, III, Congress Director, The Stough Dermatology & Cutaneous Surgery Clinic, P.A., Doctors Park, Hot Springs, Arkansas 71901.



# RESOLUTIONS



## DR. THOMAS E. BURROW

WHEREAS, the members of the Garland County Medical Society note with sincere and deep sorrow the death of one of its beloved members, and

WHEREAS, he has been a valuable member of the Society for many years during which time he served as its president, and

WHEREAS, he has served as the Chief of Staff of St. Joseph's Regional Health Center and the Ouachita Memorial Hospital and has given devotedly to serving on many committees therein, and

WHEREAS, he was held in high regard as a learned, capable and conscientious physician.

### BE IT THEREFORE RESOLVED:

THAT, the Garland County Medical Society pay tribute to our recently departed member, Dr. Thomas E. Burrow; and

THAT, a copy of this tribute be sent to his wife, Louise Norman Burrow, and made a part of the minutes of the Society, and

THAT, a copy be sent to The Journal of the Arkansas Medical Society for publication.

/s/ Robert F. McCrary, Sr., M.D., President

/s/ Robert B. Clark, M.D., Secretary

\* \* \* \*

## DR. S. WRIGHT HAWKINS

WHEREAS, God in His infinite mercy has seen fit to call from our midst on the fifteenth day of July 1983 Dr. S. Wright Hawkins, and

WHEREAS, Dr. Hawkins has faithfully served his patients in the community at large throughout his entire medical career, and

WHEREAS, Dr. Hawkins during his years of practice has reflected the highest ideals of his profession, and

WHEREAS, in his devotion to family, church and friends, he exemplified the best in man, and

WHEREAS, the Sebastian County Medical Society mourns his loss

THEREFORE, BE IT RESOLVED, the Sebastian County Medical Society, in its regular meeting on September 13, 1983, hereby adopts these Resolutions and directs that a copy be spread on the Minutes of the Society and that a copy be furnished the family and that a copy be published in the Journal of the Arkansas Medical Society.

/s/ Harry P. McDonald, M.D.  
President,  
Sebastian County Medical Society



## County Society Proceedings

### MISSISSIPPI COUNTY MEDICAL SOCIETY

The Mississippi County Medical Society recently held a dinner meeting for doctors in the county and their spouses. Dr. Harvey Harmon, county president, presided.

Special guests for the meeting were Dr. Asa Crow of Paragould, president of the State Medical Society, and Mrs. Crow; Dr. James R. Weber of Jacksonville, secretary of the State Medical Society; Dr. J. Larry Lawson of Paragould, chairman of the Arkansas Medical Society Political Action Committee, and Mrs. Lawson; Mr. Mike Mitchell, legal counsel for the Medical Society; Dr. L. D. Massey, formerly of Osceola, who is the oldest member of the County Medical Society; and Dr. and Mrs. Ramon Lopez of Newport. Mrs. Lopez is Northeast Vice President for the Arkansas Medical Society Auxiliary.



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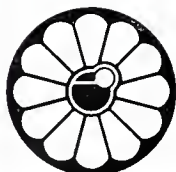
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December, 1983

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Vol. 80 No. 7

FORT SMITH, ARKANSAS

## ROSTER ISSUE

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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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## Recurrent Suppurative Otitis Media

Charles W. Gross, M.D.\*

### ABSTRACT

The etiology, pathophysiology and treatment of acute otitis media in children has been reviewed with emphasis on the role of the eustachian tube. The treatment with pressure equalizing tubes has been assessed in a series of 97 patients along with a review of the literature. This shows a marked reduction in the individual instances of otitis media. In addition, there has not been the development of chronic otitis in these patients or of complications of the same.

### INTRODUCTION

All physicians interested in otologic problems are cognizant of the fact that suppurative otitis media remains one of the more common conditions afflicting children. Not well recognized, however, is that there is a group of very young children who have a proportionally much larger share of the total episodes than older children. In one study of children from birth to age 15, 42 percent of the episodes reported occurred in children three years of age or less and 31 percent of the total episodes occurred in only nine percent of the children.<sup>1</sup>

The purpose of this presentation is to review the problem of otitis media in general, with particular reference to etiology, pathophysiology and factors related to frequent recurrence.

Much has been written concerning otitis media and there is general agreement as to proper treatment for the individual episode though controversy remains concerning some areas of specific aspects. Most patients with acute otitis media are successfully managed and no serious sequelae develop.

Preventive measures have not been widely employed and the frequency of otitis media today remains as great as that in the pre-antibiotic era.<sup>2</sup> It would seem that if a good preventive otologic regime were widely employed in such susceptible young persons, the total number of episodes would

be decreased with possibly the prevention of the development of chronic otitis media and other possible complications.

Until recently there has been little advice for the physician seeking guidance in the prevention of recurrent suppurative otitis media. For example, in such excellent modern texts as DeWeese and Saunders<sup>3</sup> and Paparella and Shumrick<sup>4</sup> only a few paragraphs are devoted to this important problem. The advice contained therein is scanty though there are recommendations suggesting the investigation of such factors as hypertrophied adenoids, gamma-globulin deficiency, allergy and chronic adenotonsillitis. Even so, there is no suggested outline of a systematic approach for the management of such patients.

### INCIDENCE

The British literature contains reports of excellent statistical studies concerning the incidence of otitis media in the general population. A thorough summary of many of these studies is presented by Mawson.<sup>5</sup> Approximately five percent of the children age six or less will have at least one episode of otitis media each year. It appears that the incidence today is not appreciably different than that in the pre-antibiotic era.<sup>2</sup> Certain population groups have a much greater incidence of otitis media than others; for example, suppurative ear disease is extremely common in the Alaskan Eskimo<sup>6</sup> and Caucasians seem to have a larger incidence than Blacks.

The incidence of otitis media is definitely related to age. In the study by Brownlee<sup>1</sup> a peak incidence of 18 percent of the total episodes occurred between the ages of one and two. There were no other differences in the rate of incidence during the first six years of life. After age six, the rate steadily declines each year to an incidence of less than one percent by the 12th year. Other studies have tended to substantiate this age distribution.<sup>7</sup> A seasonal incidence factor is reported in that 60 percent of the cases occur in

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the five months between November and March, with the peak incidence in February and the lowest incidence in July.<sup>1</sup>

### ETIOLOGY

The development of isolated and recurrent episodes of otitis media has been attributed to many factors. There is a great diversity of opinion with regard to the relative importance of each of these factors. In this discussion we will attempt to consider each separately, though it is probable that two or more of these factors may act simultaneously in any given episode.

#### A. Eustachian Tube

Turner<sup>8</sup> feels that the basic underlying abnormality in most cases of otitis media is eustachian tube insufficiency and that there are various other "accessory stress factors" which contribute to individual recurrent episodes. He feels recurrent episodes result primarily from eustachian tube incompetence based on congenital facial maldevelopment or to stenosis and/or edema secondary to repeated infections. When there is a malfunction of the eustachian tube, there is a resulting middle ear infection because of failure of the tube to carry out its two primary physiological functions of equalizing the ambient pressure gradients in the middle ear with that of the surrounding atmosphere and of draining fluids which accumulate in the middle ear. When the eustachian tube fails to perform its pressure equalizing function, progressive negative pressure occurs in the middle ear and effusion of tissue fluids into the cavity results. This may, in turn, result in either serous otitis or, if the fluid becomes infected, suppurative otitis. In discussing the drainage function of the eustachian tube, he points out that otitis media is simply an abscess of the middle ear and that if the eustachian tube is properly acting as a constant drain such a condition cannot exist, since an abscess is a collection of pus in a closed space.

Overwhelming infection resulting from virulent infecting organisms or from altered host resistance can create temporary eustachian tube dysfunction in any patient, due to edema of the tubal mucosa resulting from inflammation. Turner feels that in children repeated episodes of otitis media are most often due to scarring in the eustachian tube or permanent constrictions as a result of infection though occasionally there is congenital eustachian tube narrowing. This

congenital narrowing, he feels, is associated largely with a small group of patients who have long narrow faces, marked overbite with an underdeveloped mandible, high palatal arch and facial asymmetry with a poorly developed zygomaticomalar compound. He divides eustachian tube dysfunction into three categories:

1. *Temporary Eustachian Tube Insufficiency* in which isolated episodes of otitis media develop with only the most severe "stress factors" such as severe infection of the sinuses, nasopharynx and tonsils.
2. *Marginal Eustachian Tube Insufficiency* presents problems earlier in life and more frequently, but again clinical problems occur only when precipitated by "stress factors" such as allergy, adenoiditis, tonsillitis and sinusitis. The "stress factors" mentioned above need not necessarily be severe before otitis results.
3. *Total or Near Total Eustachian Tube Dysfunction* is manifest by history of infection beginning in infancy which becomes progressively more frequent and severe as scarring and stenosis of the eustachian tube takes place. Otitis media occurs in these patients even without associated "stress factors" and in the period between the episodes of otitis effusion with concomitant hearing loss is always present. Progressive pathological changes are also found to occur in the tympanic membrane and in the middle ear with increasing age. The implication here is that frequent recurrent acute suppurative otitis chronic suppurative otitis, or chronic serous otitis develops primarily in those patients with this third category of eustachian tube dysfunction.

Certainly, this is an attractive pathophysiological consideration of the evolution of otitis media, however, some difficulty is encountered in accepting this theory when one considers that episodes of otitis media occur primarily in infancy when the eustachian tube is short and more widely patent than in adult life. It may be, however, that increased contamination of the middle ear space by this short wide eustachian tube leads first to infection with resulting inflammation and edema of the tubal mucosa, which then leads to eustachian tube narrowing and/or dysfunction.

These considerations tend to be substantiated



anatomically and physiologically in various studies. Holborow<sup>9</sup> in a revealing study pointed out that there were three major anatomical changes of the eustachian tube between the age of birth and about seven years as a function of growth and development. These are: (1) Shape and position of the tubal cartilage in the nasopharynx, (2) relationship of associated muscles, and (3) the amount of glandular tissue present in the tube.

In infancy and childhood the ostium of the tube lies lower in the nasopharyngeal vault which renders it more susceptible to contamination by food and oral microflora. The more important differences, however, are in the cartilages and the muscles. The tubal cartilage lies in a nearly horizontal plane in the infant, in contrast to the adult in which the angle is more nearly perpendicular. The medial lamella of the cartilage is relatively short and the levator palatini muscle is separated by considerable distance from the cartilage. There is also abundant glandular tissue around the tube as mentioned above. During the period from infancy to about seven years of age major changes occur in the anatomy. The tube assumes a more perpendicular relationship with the base of the skull and the medial lamella of the cartilage becomes larger by exhibiting a relatively larger growth than that of the lateral lamella. Also during this time, the levator palatini muscle inserts into the cartilage. The importance of the function of that muscle in opening the eustachian tube is well known. Thus, in infancy and childhood, the mechanism of tubal opening and closing is less efficient. This, of course, correlates closely with the period of maximum incidence of otitis media. Holborow also studied the physiological effects of these anatomical changes by direct recording of changes in middle ear pressure resulting from eustachian tubal openings. By using a paper type recorder at a high speed setting (25 mm per second) different characteristics of the pressure curve changes are shown with different ages. The normal adult tube can be seen to open and close clearly and precisely. In childhood, even though no otologic disease is present, the tube opens sharply but closes much more gradually. In serous otitis, a double curve was frequently seen. There is little doubt that the eustachian tube function is poor in chronic otitis media. In the series of Holmquist,<sup>10</sup> 80 percent of the ears with dry chronic otitis media, when

studied by the manometric method, demonstrated poor eustachian tubal function. Bylander also in his recent study compared eustachian tube function of children and adults and concluded that children had higher negative middle ear pressures and poor muscle opening functioning.<sup>11</sup>

## B. Tonsils and Adenoids

Davidson<sup>12</sup> feels adenoidal hypertrophy is the most common cause of recurrent ear infection and that careful clean surgical removal of hypertrophied lymphoid tissue in the nasopharynx will reduce the rate of recurrence in 50 percent of the cases. This is a concept accepted by many though still quite controversial. Shambaugh<sup>13</sup> concurs with this philosophy and feels the first effort to prevent recurrent attacks in any given individual should be to remove the adenoids. Turner<sup>14</sup> also agrees with this while Kivirampa<sup>15</sup> who generally supports adenoidectomy as a preventative measure noted that in his study when a series of 64 children were studied by X-ray that large adenoidal hypertrophy was exceptional. In these same children at surgery in only one of eight cases did the otolaryngologist consider the adenoids to be large. The adenoids were medium size in four of eight children and small in three of four. Some of the children in their series also had tonsillectomies. When studied it appeared that the children continued with approximately the same recurrence rate after tonsillectomy. Those advocating adenoidectomy generally feel that this procedure is not to be done in infants and very young children. This is a paradox in that of the 6,500 children in the Kivirampa series with otitis media one-half of the children who had frequent recurrent episodes were between the age of one and two. Fourteen percent were less than one year old. In reviewing the history of these patients the age range of three to six months was most often given as the age when the trouble began. Eustachian tube irradiation as a method of reducing lymphoid tissue around the nasopharyngeal orifice of the tube has had some popularity for many years but is not widely advocated today. Recently Sidentop<sup>16</sup> reported the successful use of Strontium 90 as a method of reducing the bulk of lymphoid tissue around the tubal orifice. There were few side effects. He recommended Strontium 90 be used only when all other treatments had failed. Recurrent infections of the tonsils and adenoids are frequently associ-

ated with otitis media. Again much has been written on the subject both supporting and disagreeing with this concept. Evans<sup>17</sup> reviewed the published evidence for and against tonsillectomy in general in 1968 and concluded adenoidectomy may occasionally be a worthwhile preventative measure in children with serous otitis media, however, he concluded tonsillectomy was not beneficial. In Brownlee's<sup>1</sup> series eight percent of 651 children with otitis media underwent tonsillectomy and adenoidectomy in an attempt to reduce the incidence of infections. They were unable to show any decrease in incidence of attacks after tonsillectomy. Fiellau, et al,<sup>18</sup> in his study divided forty-five children with serous otitis media into two treatment groups. One group underwent myringotomy with adenoidectomy and one group underwent myringotomy alone. These children were then followed with tympanometry. The study failed to show therapeutic or preventative effects of adenoidectomy in serous otitis media.

Sprinkle<sup>19</sup> in a microbiological study showed that tonsillectomy and adenoidectomy provided a more effective modifier of the pathogenic oral microflora in patients with recurrent otitis media and/or tonsillitis than did repeated courses of antibiotic therapy. He concluded that if control of the pathogenic microflora is a key to the prevention of recurrent suppurative otitis then tonsillectomy and adenoidectomy remains the most logical approach to prevention.

### C. Bacteriology

By definition, suppurative otitis is an infection of the middle ear cleft by micro-organisms. This does not necessarily imply that micro-organisms are the primary etiologic factor. Though Howie and Ploussard<sup>20</sup> have published an interesting study which seems to indicate, at least in recurrent episodes, micro-organisms may be an extremely important factor if not the primary etiologic one. They show that recurrent otitis media could and would occur even with optimal specific antibiotic therapy and coined the term "homologous relapse" for those cases in which there is an early relapse of the condition with the same organism as in the initial episode. For example, in one part of their study 36 patients with pneumococcal otitis media were followed for three months. Thirteen of these patients had a total of 19 relapses and in all instances the culture

was similar to that of the initial episode. In other parts of their study group homologous relapses with pneumococcus were quite frequent. Also, a group of their patients with *Hemophilus influenza* as the infecting organism had an 80 percent homologous relapse rate. When antibiotic therapy was withheld for four days following the onset of symptoms, there was an over-all decrease in the incidence of relapse and in particular no homologous relapses occurred in patients with pneumococcal otitis media. Additionally, no complications were noted as a result of this delay in institution of therapy. They concluded that, since otitis media is in general a self-limiting disease and the two primary reasons for treating the patient are prevention of complications and of future attacks, a delay of antibiotic treatment for four days is recommended to allow antibody production. In Kamme, et al,<sup>21</sup> review of the course of otitis media in 245 children, recurrences were more common in pneumococcal otitis than in other types with about one-half of the relapses occurring in infants less than one year of age. Riff<sup>22</sup> disagrees, in that she feels that repeated episodes are distinctly different from treatment failures and are likely to be of different bacterial etiology. It appears there is some misunderstanding here in that the authors referred to previously, do feel the antibiotic therapy was insufficient to enable the patient to resist re-infection by the same organism which was shown frequently to persist in the nasopharynx.

Other authors feel contamination of the middle ear cleft by organisms associated with upper respiratory infection is the prime cause of otitis media. Another factor suggesting the role of bacterial contamination is the relationship of otitis media to bottle feeding of the child in the supine position. A well done study by Beauregard<sup>23</sup> showed a large increase in the incidence of otitis media in children fed in this position as compared to children bottle fed in other positions or breast fed. It is felt that this method of feeding allows direct contamination of the middle ear cleft by oral microflora. Forceful nose blowing and blood born contamination are also considered factors which further implicate bacteriological contamination of the middle ear as the prime etiologic factor in the development of otitis media.

A disturbing consideration in reference to bacteriologic etiologic factors is that the incidence



of acute otitis media has not changed appreciably since the advent of antibiotics and, in fact, the incidence of recurrent otitis may be increasing.<sup>24</sup> Are these due to changes in the pathologic organism itself and/or its prevalence? There are conflicting opinions concerning the relative incidence of specific bacteria as a cause of otitis media. Palva, Friedman and Palva<sup>25</sup> in an extensive study found the relative incidence of individual pathogens unchanged over the past few years. However, Halstead, et al,<sup>26</sup> found changes in the incidence in the pneumococcal and *Hemophilus influenza* organisms are now relatively more frequent and Beta-hemolytic strep less frequent than previously reported. Schwartz<sup>27</sup> reviewed all cases studied in the literature from 1971 to 1981 (a combined total of 2,820 cultures for otitis media) and found 31 percent *Pneumococcus*, 27 percent *Hemophilus influenzae*, 2 percent staph aureus, 2 percent strep, and 33 percent no growth.

Maynard, et al,<sup>7</sup> provided further excellent supportive evidence concerning the relation of the presence of pathogenic bacteria to the incidence of recurrent otitis media. In their study they pointed out that acute suppurative otitis media and subsequent hearing loss were major problems among the northern Indian and the Eskimo population of the United States and Canada. Therefore, he carried out a one-year trial of ampicillin prophylaxis among 364 Eskimo infants and children under the age of seven in six villages in western Alaska. This appears to have been a well-controlled study using the double blind method for comparison. The groups were matched for age, sex, family size and history of middle ear disease. They found significantly fewer episodes in the study group indicating, of course, that the presence of bacteria is at least in some way related to the incidence of otitis media.

#### D. Immunologic Factors

Immunologic factors play an important role in the human body's response to any infection. There is no reason to suspect that in patients with otitis media these factors are less important than in other infections. There is, in fact, good evidence showing the importance of proper immunologic response in relation to the incidence of recurrent otitis media. Direct immunologic evidence was provided in the study by Kivirampa.<sup>15</sup> In this study the serum electrophoretic pattern

in the 173 (2.7 percent) of the 6,500 children that had frequent recurrent otitis was examined. Nearly 40 percent (63) of these were deficient in gamma globulins (the serum albumin content was significantly elevated and the gamma globulins correspondingly decreased). The gamma globulins values were in the range of about 2/3 normal. These children with hypo-gamma globulinemia were treated with substitution therapy and nearly all cases seemed to respond favorably within two to three months. If the therapy was stopped in less than a year, recurrences occurred again. They accepted the concept of "immunologic paralysis" as one explanation for the phenomenon of recurrent otitis media. Other notable proponents of this general concept are Armstrong,<sup>24</sup> Davidson,<sup>12</sup> Shambaugh,<sup>13</sup> and Turner and Dobson.<sup>14</sup>

#### E. Allergy

There is general agreement that children with severe allergies have a greater incidence of upper respiratory infections. In regard to the allergic etiology of otitis media, the question remains, is the etiologic effect caused by eustachian tube blockage, or as a result of the middle ear mucosa being a target organ. Of particular interest in this regard is the study of Bernstein, et al,<sup>28</sup> in which a careful study of the total IgE, specific IgE antibodies and six inhalant allergens in 41 children with acute otitis media was made. He concluded that allergic investigation of children with recurrent otitis media without a history of laboratory evidence of allergy was probably not worthwhile.

#### F. Other Factors

Many other etiological factors have been suggested as important in the development of individual and recurrent episodes of otitis and deserve consideration in patients with frequent recurrences. Among these are prematurity,<sup>29</sup> sinusitis, lower respiratory infections, tympanic membrane perforations, dietary habits, cleft palate, latent mastoiditis, "inherited susceptibility," environmental factors and teething.

### THErapy AND RESULTS

The usual outcome of any episode of otitis media, even without medical treatment, is complete resolution and return to the normal state. This fact often leads to a false sense of security on the part of the physician as studies have shown that a significant number of children do have

difficulty following individual episodes. Fry<sup>30</sup> carefully followed 473 children that had had otitis media and found that 68 (17 percent) had a residual hearing loss of 20 decibels or more at two or more of the speech frequencies. Brownlee<sup>1</sup> also carefully followed a group of 772 children, 651 of whom had had 2,876 episodes of otitis media. He reported that 13 percent had abnormal audiograms, two percent had permanent hearing loss, though this permanent loss was not statistically significant when compared with children who had not had otitis media in their series when studied individually. Thirteen percent had one or more perforations. Three children did have hearing loss probably related to the episodes of otitis. Paparella<sup>31</sup> has shown a correlation between chronic otitis and sensorineural hearing loss. In his work he confirms this both by audiometric studies comparing hearing in normal and diseased ears and by histopathological correlation in 75 of 344 temporal bones showing histologic evidence of pathological changes probably related to the inflammatory effects of otitis. These studies demonstrate the importance of careful therapy and follow up until there has been a complete return of the involved ear to the normal state. The importance of modern antibiotic therapy in the treatment of severe acute otitis media is hardly debatable. One need only recall the prevalence and seriousness of acute mastoiditis in the pre-antibiotic era to realize the tremendous advantage the modern physician has in dealing with otologic infections. There have been numerous excellent studies to evaluate the effectiveness of different antibiotic regimens.<sup>2,29,31,32</sup> There is general agreement that penicillin is the drug of choice in children over five and in children less than five the therapy should include some agent effective against *Hemophilus influenzae* organism such as ampicillin or sulfa. The time of institution of antibiotics is questioned in the study Brownlee<sup>1</sup> discussed above. Other than his study, there is little evidence to substantiate a delay in initiation of antibiotic therapy and in general antibiotic therapy is begun at the time of diagnosis. In many of the above studies nasal decongestants were used and are in common use today. However, in those studies in which decongestants were evaluated, no beneficial effects were demonstrated. In fact Peerless and Noiman<sup>32</sup> have shown antihistamines and decongestants to decrease mucociliary activity

and feel these drugs may be causative factors in precipitating otitis media with effusion.

Perhaps the area of greatest controversy in treatment of acute otitis media concerns myringotomy. Armstrong<sup>24</sup> in 1970 drew attention to the increased number of hospitalizations for chronic otitis media and felt this was largely due to the failure to perform myringotomy. Otolaryngologists generally feel that myringotomy is useful and therefore tend to be quite liberal in their indications for this relatively benign procedure. In spite of this feeling, there are a few scientific studies that clearly substantiate its usefulness. Among the studies tending to refute the usefulness of myringotomy is the well controlled study of Rubenstein.<sup>33</sup> In that study 462 cases of otitis media were analyzed and on the basis of their findings they concluded that myringotomy was not necessary. Also Rodney, et al,<sup>34</sup> in a carefully designed study followed two paired groups of patients treated with and without myringotomy and found the clinical response and the return to normal hearing the same in each group.

Many share the feeling of Beals<sup>2</sup> that, while myringotomy may not often be necessary, there are cases when otalgia, threatening complications, threatening perforations, delayed resolution, or in the instances where bacteriological testing is desired, myringotomy is quite useful. Adenoidectomy, adenotonsillectomy and treatment of immunodeficiency have been discussed above when relating their role in the etiology of recurrent otitis. Other factors mentioned should be investigated when there is reason to suspect they may be of importance.

### PRESSURE EQUALIZING TUBES

Armstrong<sup>25</sup> in 1957 introduced the pressure equalizing tube as a part of therapy for chronic serous otitis. Literature concerning the use of this tube and the treatment of serous otitis is voluminous. If one subscribes to the theory of eustachian tube insufficiency as the prime etiologic factor concerned with recurrent otitis, it would seem that the use of pressure equalizing tubes would also be of benefit in efforts to prevent recurrent suppurative otitis. This is particularly true since there are no direct surgical or medical methods known which will correct primary eustachian tube insufficiency. It is interesting to note, however, that Silverstien, et al,<sup>36</sup> have shown that not only does the pressure equalizing



tube temporarily bypass the eustachian tube but often patients who have pressure equalizing tubes in place, when tested manometrically, revert from a state of eustachian dysfunction to normal or near normal function. Turner<sup>8</sup> and Holborow<sup>9</sup> and MacKinnon<sup>37</sup> suggested the use of pressure equalizing tubes as part of their approach to the prevention of recurrent suppurative otitis, however, no detailed scientific data were available to substantiate the effectiveness of this form of preventative therapy. As early as 1966 the author began empirically treating selected cases of frequent recurrent otitis by this method. The cases selected had failed to respond to preventive efforts of the referring physician. The pressure equalizing tubes were used in these children without regard to presence or absence of fluid in the middle ear at the time of examination. Results were encouraging in these cases. Consequently, a study of 97 children were studied between the period of July 1971 and June 1972 in children three years of age or less with recurrent otitis. There were 54 males and 43 females. Ninety-one of these children were referred by pediatricians and three by family physicians, who in each case had exhausted their usual investigative and therapeutic measures in an effort to control these recurrent infections. Three additional patients were treated without physician referral. In this study no attempt was made to investigate or treat specific etiologic factors. Functional testing of the eustachian tube was not done because impedance audiometry and manometry was most difficult and unreliable in children of this age.

A history of upper respiratory problems as well as recurrent otitis was obtained from each patient. In 42 of these children, it was felt that recurrent adenotonsillitis was a significant part of the overall clinical presentation and therefore that adenotonsillectomy was included in the treatment regime. At the time of examination in the office, an additional nine children were felt to have hypertrophy of the adenoids and consequently adenoidectomy was performed. It is realized that it would have been more scientific in this series not to have performed adenoidectomy or tonsillectomy in any of the children studied. However, in the author's opinion, these procedures were indicated because of specific problems with the tonsils and adenoids. All 97 children underwent bilateral myringotomy and insertion of a modified Arrow\* pressure equalizing tube. At sur-

gery the middle ear cavity was dry in 48 children, while in 34 there was a thin serous fluid and in 15 there was "glue" type fluid. It should be emphasized again that the decision for the use of myringotomy and pressure equalizing tube insertion did not depend upon the physical examination at the time the child was first seen, as our previous experience had led us to conclude that it was judicious to proceed with the pressure equalizing tube insertion to the face of normal or near normal appearing tympanic membranes. The children were all followed while the tubes were in place plus an additional two months after they had extruded with the minimum time of follow up being one year in those instances where extrusion occurred in less than ten months. Tubes that extruded, did so in an average of 7.45 months. At this time it is not possible to assess the average length of time the tubes will remain in place because 27 children still have the tubes in place.

Treatment results were assessed as follows. Questionnaires were sent to all 97 patients to assess the treatment results. Responses were obtained from 68 of these. Additional attempts were made to contact the 29 patients who did not respond, but were unsuccessful. Of the 68 patients whose parents had responded, 21 had otologic problems since the tubes had extruded, 19 with recurrent otitis, two with serous otitis. Seventeen had reinsertion of pressure equalizing tubes which were in place at the conclusion of the study. None of the entire group of 21 patients who had had problems have had further episodes of otitis media since reinsertion of tubes or since decision was made that no further therapy was indicated. There have been no permanent complications observed in this series following treatment, but complications are known to infrequently occur with the use of pressure equalizing tubes. Additional data were obtained through review of the patient records. When the patients were first seen and again at the time of follow up the average number of infections in the six month period prior to insertion of the tubes was determined as well as any difficulties during the treatment period.

In the analysis of these raw data the average number of episodes of otitis media per child in the six month period prior to the pressure equalizing tube insertion was 613 or slightly more than

\*Richards Catalogue number 540240-01 Teflon  
Xomed Catalogue number X0-1001

one per month. For the entire group there were 28 episodes of otitis media in the follow up period. In most of these episodes it was impossible to determine the exact cause, but it was felt that approximately 75 percent were due to severe upper respiratory infection and 25 percent due to contamination of the middle ear through the lumen of the pressure equalizing tube. All 28 episodes responded promptly to therapy, consisting of antibiotic-steroid ear drops or systemic antibiotics and decongestants depending upon the individual clinical presentation.

Due to the difficulty in interpreting the parents' reply and knowing that frequently parents were not accurate in their recall, a professional biostatistician was asked to analyze the data. His report follows:<sup>36</sup>

The mean number of infections before and after the insertion of the pressure equalizing tubes are shown below:

	6 mos. prior to tube	6 mos. after tube
Mean No. of infections	6.35/pt.	0.06/pt.

48 pairs of observations were used in the calculation of the means.

Since the comparison dealt with correlated observations, in other words since the before and after array of infections was based on the same patients, a matched pair test was used to analyze these data. This test showed that there was a highly significant difference between the number of infections prior to and after the insertion of the tube ( $p < 0.001$ ). The above test was performed only on the 48 patients whose parents supplied clear data on the infection status of the children prior to and after the insertion of the tube.

## DISCUSSION

The problem of recurrent otitis media is a complicated one. Many of the aspects have been discussed above. It should be noted that about 45 percent of the episodes of otitis media occur in children less than three years of age and about 15 percent of the patients with otitis media have episodes more frequently than eight times per year. The reported study was an attempt to evaluate the effect of pressure equalizing tubes as a preventative measure in a selected group of children who had proven to be "otitis media prone." This method of therapy has now become an accepted form of therapy in many institutions.

Treatment in this group of cases was given on the assumption that the foremost etiologic factor causing frequent recurrent otitis media was primary eustachian tube dysfunction. Adenotonsillectomy or adenoidectomy was done in approximately half of the cases as it was felt that since the child was to have general anesthesia there was ample indication for these procedures. As further experience has been gained we have adopted increasingly more strict indications for these procedures. While other factors were not investigated in the course of this study, the author does not wish in any way to imply that factors other than the eustachian tube are not to be of importance in the development of otitis media. It is felt, however, that in patients with frequent recurrent otitis media the initial effort at preventing recurrent infections should usually be myringotomy and insertion of pressure equalizing tubes. If there are indications other etiologic factors can be investigated during the time the pressure equalizing tube is in place preventing the majority of the episodes of infection. As Armstrong<sup>24</sup> has stated, there is conservative surgical as well as conservative medical management. The procedure we recommend requires less than ten minutes of general anesthesia which when given by one experienced in pediatric anesthesia is extremely safe.

In the ensuing ten plus years since the adoption of this treatment policy in a large pediatric otolaryngologic practice based at Le Bonheur Children's Hospital there has been a dramatic decrease in the development of chronic otitis media and its complications. The most usual untoward occurrence in these patients has been the development of a few individual instances of acute otitis. There have been no instances of chronic otitis and the development of cholesteatoma in patients being followed. In patients with severe prolonged otitis media with effusion, requiring long term ventilation, we have used the Per Lee tube. Our experience with this tube is similar to that reported by Per Lee,<sup>38</sup> in which an occasional anterior perforation is encountered, which contributed little to hearing loss and are therapeutic in nature. McLelland<sup>39</sup> in his series of 300 children reported one in six children require repeated insertions and that perforation developed in three percent. The incidence of cholesteatoma was .2 percent. In conclusion it can be stated that treatment regime consisting of pressure



equalizing tube insertion for recurrent otitis and for persistent otitis media with effusion has become widely accepted and has in reality been a revolutionary advancement in the prevention of individual episodes of otitis in the otitis prone child and in the prevention of chronic otitis media with its complications and further in the correction of hearing loss in this age group, thereby preventing the speech, language and learning delays that have been reported.

### SUMMARY

A discussion of acute suppurative and serous otitis media with particular emphasis on the problem of recurrent episodes has been presented. The etiology, pathophysiology and treatment have been reviewed with emphasis placed upon the role of the eustachian tube. Results from a group of 97 patients who were treated by the method proposed herein are reported. Analysis of the data both in the raw form by the author, and in the select form by a biostatistician, indicate this form of therapy is remarkably successful in decreasing the incidence of recurrent otitis. The reduction of incidence of infection in this series was from 6.3 episodes per patient/per six months to 0.06 per patient/per six months. It is concluded that insertion of pressure equalizing tubes as a measure to prevent recurrent otitis media is the most useful therapeutic measure available and further that as wider clinical experience has been gained, the complications of otitis media have been greatly decreased.

### BIBLIOGRAPHY

1. Brownlee, R. C., Jr., et al: Otitis Media in Children — Incidence, Treatment and Prognosis in Pediatric Practice. *Journal of Pediatrics*, 74:636, 1969.
2. Beales, P. H.: Acute Otitis Media. *Practitioner*, 199:752, 1967.
3. De Weese, D. P., and Saunders, W. H.: 4th Edition, *Textbook of Otolaryngology*. St. Louis, The C. V. Mosby Company, 1973.
4. Paparella, M. M., and Shumrick, D. A.: *Otolaryngology*. Volume 2, 1973, W. B. Saunders, Philadelphia, London, Toronto.
5. Mawson, S. R.: *Diseases of the Ear*. 2nd Edition, 1967, Published by Edward Arnold, Ltd., London.
6. Maynard, J. E., Flesham, J. K., and Tschopp, E. G.: Otitis Media in Alaskan Eskimo Children — Prospective Evaluation of Chemoprophylaxis. *JAMA*, 219:597, 1972.
7. Strickler, G. B., et al: The Treatment of Otitis Media in Children — 4th Clinical Trial. *American Journal of Diseases of Children*, 111:123, 1967.
8. Turner, J.: Recurrent Infection in Children — A Logical Step-Wise Approach to This Potentially Devastating Problem. *Clinical Pediatrics*, 7:146-150, 1958. Published by J. B. Lippincott Company, Philadelphia, Montreal.
9. Holborow, C.: Eustachian Tubal Function — Changes in Anatomy and Function With Age and the Relationship of These Changes to Aural Pathology. *Archives of Otolaryngology*, 92:624, 1970.
10. Holmquist, J.: Middle Ear Ventilation in Chronic Otitis Media. *Archives of Otolaryngology*.
11. Bylander, A., et al: Eustachian Tube Function in Normal Children and Adults. *Acta Otolaryngologica*, 92:481-491, 1981.
12. Davidson, F. W.: Prevention of Recurrent Otitis Media in Children. *Annals of Oto*, 75:735, 1966.
13. Shambaugh, G. E., et al: Acute Otitis Media and Mastoiditis. Vol. 2, Chapter 9, *Otolaryngology*. Edited by M. M. Paparella and D. A. Shumrick. Published by W. B. Saunders, Philadelphia, London, Toronto.
14. Turner, J. L., and Dobson, H. L.: Use of Gamma-globulin in the Chronically Ill Infant. *The Laryngoscope*, 67:1280, 1967.
15. Kivirampa, U. K.: Recurrent Middle Ear Infection and Serum Proteins in Children. *Journal of Laryngology*, 83:1253, 1967.
16. Sidentop, K. H.: Eustachian Tube Irradiation With Strontium 90. *Archives of Otolaryngology*, 92:71, 1970.
17. Evans, H. E.: Tonsillectomy and Adenoidectomy — Review of Published Evidence For and Against the T & A. *Clinical Pediatrics*, 7:71, 1968. J. B. Lippincott.
18. Fiellau-Nikolajsen, et al: Adenoidectomy for Middle Ear Disorders. *Clin Oto*, 5:323-327, 1980.
19. Sprinkle, P. M., and Veltoni, R. W.: Microbiology of the Middle Ear and Nasopharynx. *Annals of Otolaryngology*, 80:354, 1971.
20. Howie, D. M., and Ploussard, J. H.: Bacterial Etiology and Antimicrobial Treatment of Exudative Otitis Media. *Southern Medical Journal*, 64:233, 1971.
21. Kamme, C., et al: Distribution of Diplococcus Pneumonia Types in Acute Otitis Media in Children and Influences of Types of Clinical Course in Penicillin V Therapy. *Scandav. Journal of Infectious Diseases*, 2:183, 1970.
22. Riff, L.: Chemotherapy in Ear Diseases. *Otologic Clinics of North America*, 5:3, 1972.
23. Beauregard, W. G. B.: Positional Otitis Media. *Journal of Pediatrics*, 79:294, 1971.
24. Armstrong, B. W.: The Treatment of Acute Middle Ear Infections in Children. *Otologic Clinics of North America*, 3:249, 1970.
25. Palva, T., Friedman, N. I., and Palva, A.: *Journal of Laryngology*, 78:997, 1964.
26. Halstead, C., et al: Otitis Media — Clinical Observations, Microbiology and Evaluation of Therapy. *American Journal of Diseases of Children*, 15:512, 1968.
27. Schwartz, R. H.: Bacteriology of Otitis Media, a Review. *Otolaryngol Head Neck Surgery*, 89:141-150, 1981.
28. Bernstein, J. M., et al: The Role of IgE-mediated Hypersensitivity in Otitis Media With Effusion. *Otolaryngol*, 89:874-878, 1981.

## RECURRENT SUPPURATIVE OTITIS MEDIA

29. Bland, R. D.: Otitis Media in the First Six Weeks of Life. *Pediatrics*, 49:187, 1972.
30. Fry, J.: Acute Otitis Media in General Practice. *Proc. Royal Society of Medicine*, 63:741, 1970.
31. Paparella, M. M., et al: Pathology of Sensorineural Hearing Loss in Otitis Media. *Annals of Otolaryngology, Rhinology, and Laryngology*, 81:632, 1972.
32. Peerless, S. A., and Noiman, A. H.: Etiology of Otitis Media With Effusion, Antihistamines and Decongestants. *Laryngoscope*, 90:1852-1864, 1980.
33. Rubenstein, K., et al: The Treatment of Acute Otitis Media in Children, Part III in a Clinical Trial. *American Journal of Diseases of Children*, 109:30, 1967.
34. Rodney, D. F., Earle, R., and Hoggostz, R.: Myringotomy in Acute Otitis. *JAMA*, 197:127, 1966.
35. Armstrong, B. W.: Chronic Secretory Otitis Media, Diagnosis and Treatment. *Southern Medical Journal*, 50:540, 1957.
36. Silverstien, H., Miller, G., and Linderman, R.: Eustachian Tube Dysfunction As A Cause For Chronic Secretory Otitis in Children — Corrected By Pressure Equalization. *The Laryngoscope*, 76:259-273, 1966, Boston, Mass.
37. MacKinnon, D. M.: Sequel to Myringotomy for Exudative Otitis Media, *Journal of Laryngology and Otolaryngology*, 85:773, 1971.
38. Per-Lee, J. H.: Long Term Middle Ear Ventilation. *Laryngoscope*, 91:1063-1073, 1981.
39. McLelland, C. A.: Incidence of Complications From Use of Tympanoplasty Tubes. *Arch Otolaryngol*, 106: 97-99, 1980.





# Medicaid Cost Containment in Arkansas: Long Term Care Reimbursement

Robert J. Buchanan, Ph.D.\*

## ABSTRACT

Since long term care expenditures absorbed 56.9% of the \$267 million Medicaid budget during 1982 in Arkansas, cost savings on nursing home reimbursement would have a significant impact on the containment of total Medicaid outlays. This study compared various reimbursement practices used by the Medicaid program in Arkansas with the results of a national study of state Medicaid programs and found that the Arkansas program has been successful at containing per diem payments for long term care. This success is attributed to the use of a percentile methodology in a prospective rate setting system. This study discovered that compared to the nation and to the South Central, Medicaid recipients are utilizing long term care at higher rates. Breaking that analysis down into utilization of skilled and intermediate care, Medicaid recipients in Arkansas are utilizing intermediate care at higher rates and skilled care at lower rates than their counterparts in the nation and region.

## INTRODUCTION

The Research Institute of Pharmaceutical Sciences (RIPS) at the University of Mississippi conducted a national study of state Medicaid programs to determine the impact various reimbursement factors have had on the cost and utilization of long term care between 1975 and 1981. A series of survey questionnaires were mailed to all state programs to gather data on per diem payments and the reimbursement factors used for both skilled and intermediate care. State utilization data for Medicaid recipients 65 years and over were obtained from the Health Care Financing Administration of the Department of Health and Human Services for both types of care.<sup>1</sup> This study compares the Arkansas Medicaid program to the findings for the nation. Given the fact that long-term care expenditures absorbed 56.9% of the \$267 million Medicaid budget in Arkansas during 1982, cost savings on nursing home reimbursement would have a significant impact on efforts to contain total Medicaid spending.

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## REIMBURSEMENT FACTORS

The RIPS national analysis of reimbursement factors used by state Medicaid programs to pay for long term care discovered that some of these mechanisms are associated with lower per diem payments. A discussion of these factors follows.

### Return on Net Equity

Federal regulations allow each state Medicaid program the option to treat "a return on proprietary provider's net equity" as an allowable cost when calculating payment rates. Of the states responding to the survey, return on net equity (RONE) was used as an allowable cost for skilled care by 28 states and not allowed by 14 states during 1980. As of July, 1983, the Arkansas Department of Human Services (Medicaid) does not allow RONE as a reimbursable cost to proprietary providers. The national analysis of Medicaid programs revealed that states allowing RONE as a reimbursable cost paid significantly higher per diem rates for skilled care than states which did not. These observed outcomes were also true for intermediate care rates although the differences were not as large as for skilled care. Medicaid recipients in states allowing the use of RONE had somewhat greater access to skilled care but lower access to intermediate care than Medicaid recipients in states not allowing RONE. According to the results of the national study, the Arkansas Medicaid program treats this reimbursement factor in a manner associated with lower payment rates but without reducing the access Medicaid recipients have to care.

### Capital Interest Expenses

The survey of Medicaid programs conducted for the national study asked each state how interest expenses incurred by long term care facilities for capital indebtedness were treated for reimbursement purposes. Each state program was given the following choices: not an allowable cost; full reimbursement of interest expenses; and, reimbursement of interest up to a ceiling. During 1981, of the states responding to the survey, 21 states reimbursed interest expenses up to a ceiling, 16 states permitted full reimbursement, and

no states treated interest expenses as not an allowable cost. According to the survey, the Medicaid program in Arkansas allows the full reimbursement of interest expenses for capital indebtedness, but this cost center is indirectly capped through the use of a ceiling on total allowable costs.

The results of the national study indicate that states placing a ceiling on capital interest expenses averaged lower payments for skilled care and to a lesser extent intermediate care. States placing a ceiling on capital interest expenses had higher utilization of skilled care but lower utilization of intermediate care than states allowing full reimbursement. The treatment of capital interest expenses used by the Arkansas Department of Human Services is associated with lower per diem payments for long term care.

#### **Inflation Factor**

The survey of state Medicaid programs for the national study asked each state what percentage rate was used annually as an inflation factor when calculating long term care reimbursement fees. The results of the national study indicate that higher inflation factors used in determining payments were associated with higher reimbursement rates. The analysis also revealed that higher inflation factors were not linked to greater access to care. The average inflation factor used by the state programs responding to the survey was 11.97% in 1981, lower than the 15.3% level used in Arkansas. Results of the national study indicate that the Medicaid program in Arkansas could lower the rate of the inflation factor used in reimbursement to contain payment rates without adversely affecting the utilization of care by Medicaid recipients.

#### **Percentiles**

State Medicaid programs can use a percentile methodology when calculating new per diem rates for long term care. The first step in the percentile methodology is to classify providers according to the type of care delivered. Next, the providers are rank ordered within each classification according to each provider's projected costs for delivering that type of care. This results in an ascending array of projected per diem costs. Finally, the provider at the Xth percentile level of this ascending array is selected and the projected per diem cost incurred by that provider serves as the Medicaid reimbursement rate for all

facilities delivering that type of care. This is the general approach to the percentile methodology although there may be minor variations among the states. The percentile levels used by the state programs during 1981 to calculate new nursing home rates ranged from the 50th percentile to the 90th percentile, with an average of the 69th percentile. The Department of Human Services in Arkansas used the 80th percentile to calculate new payments from 1978 through 1982.

One of the major findings of the RIPS national study was that between 1975 and 1981 states using the percentile methodology in reimbursement paid dramatically lower per diem fees for long term care (e.g., 1981 — \$36.18 for skilled care and \$26.96 for intermediate care) than states not using the percentile methodology (e.g., 1981 — \$42.43 for skilled care and \$33.18 for intermediate). Medicaid recipients experienced greater access to care in states using the percentile methodology, indicating that this cost containment device does not adversely affect the access Medicaid patients have to nursing home care.

#### **Prospective Rate Setting**

Another important reimbursement factor concerns the timing for establishing payment rates. With prospective rate setting the amount of the Medicaid payment is established prior to the period the fee will be in effect. With retrospective rate setting the amount of Medicaid reimbursement is calculated after the care has been delivered based on incurred costs. Advocates of prospective reimbursement claim that it is an effective cost containment device, giving incentives to providers to deliver care efficiently. Advocates of the retrospective mechanism assert that this method is necessary to provide Medicaid patients with access to care and also to good quality care.

The analyses for the national study discovered that between 1975 and 1981 state Medicaid programs using prospective rate setting paid consistently lower per diem rates for both skilled care (e.g., 1981, \$38.11) and intermediate care (e.g., 1981, \$31.04) than states using the retrospective mechanism (e.g., 1981, \$43.30 for skilled care and \$35.00 for intermediate care). Contrary to the criticisms of the prospective method relating to access, Medicaid recipients in states using the prospective method actually had greater utilization levels for both skilled and intermediate care than states using retrospective reimbursement.



To protect Medicaid patients from the possibility that the use of prospective rate setting could lower the quality of care, the payment mechanism should be linked to a quality of care mechanism.<sup>2</sup> The Medicaid program in Michigan takes an interesting approach to quality protection. The Department of Social Services (Medicaid) in Michigan can subject all providers to a quality of care penalty factor. The penalty is assessed against a providers reimbursement rate, up to a maximum of \$1.00 per patient day, for failure to comply with certification standards.<sup>3</sup>

The Medicaid reimbursement system in Arkansas uses prospective rate setting. The Department of Human Services program should consider adopting a quality of care protection mechanism similar to the system used in Michigan to assure that the stringent prospective reimbursement rates in Arkansas (see the following cost analysis section) do not result in the delivery of lower quality care to Medicaid recipients.

#### Recommendations

The Arkansas Department of Human Services consistently uses reimbursement factors that the national study of state Medicaid programs indi-

cates are associated with lower payment rates. This study recommends that the Arkansas Medicaid program lower the rate of the inflation factor used to contain payment rates without reducing the access Medicaid recipients have to care. As the following cost analysis illustrates (see Table A), the Department of Human Services in Arkansas has been successful in containing payment rates below the regional and national averages. This success can be attributed to the use of the percentile methodology in a prospective rate setting system which the national study concluded are associated with significantly lower per diem payment rates for nursing home care.

#### COST ANALYSIS

The Medicaid program in Arkansas paid lower per diem rates for both skilled and intermediate care than the average payments for Medicaid programs in either the South Central region or for the entire nation (see Table A). The national study of Medicaid reimbursement discovered that health wage rates and the cost of living are strongly correlated with payments for long term care; higher health wages and living costs are strongly linked to higher Medicaid payments. A health

**Table A.**  
**MEDICAID PER DIEM COST**

		<b>1.) Skilled Care</b>						
Geographic Area		1981	1980	1979	1978	1977	1976	1975
Arkansas		\$25.53	\$25.53	\$23.41	\$20.97	\$16.93	\$16.37	\$14.97
(N)		(1)	(1)	(1)	(1)	(1)	(1)	(1)
South Central Region		35.36	32.93	30.27	28.52	24.44	23.36	22.24
(N)		(6)	(6)	(6)	(6)	(6)	(6)	(4)
Arkansas as % of								
Regional Average		72.2%	77.5%	77.3%	73.5%	69.3%	70.1%	67.3%
Nation		39.48	35.93	31.99	28.24	25.72	23.51	22.25
(N)		(41)	(43)	(41)	(39)	(35)	(34)	(30)
Arkansas as % of								
National Average		64.7%	71.1%	73.2%	74.3%	65.8%	69.6%	67.3%
		<b>2.) Intermediate Care</b>						
Geographic Area		1981	1980	1979	1978	1977	1976	1975
Arkansas		\$24.65	\$24.65	\$22.45	\$19.92	\$15.62	\$14.36	\$13.92
(N)		(1)	(1)	(1)	(1)	(1)	(1)	(1)
South Central Region		27.37	25.18	23.46	21.74	17.60	16.50	17.42
(N)		(7)	(6)	(6)	(6)	(6)	(5)	(5)
Arkansas as % of								
Regional Average		90.1%	97.9%	95.7%	91.6%	88.8%	87.0%	79.9%
Nation		31.98	28.04	25.41	22.96	20.08	18.21	17.81
(N)		(43)	(43)	(42)	(40)	(39)	(38)	(30)
Arkansas as % of								
National Average		77.1%	87.9%	88.4%	86.8%	77.8%	78.9%	78.2%

wage index was developed for the national study and during 1981, for example, average health wages for the nation were 19.0% higher than in Arkansas. Yet the average payment rates for nursing home care in the nation were substantially more than 19.0% greater than the payments in Arkansas. For example, during 1981 the average skilled care payment for the nation was 54.6% higher than in Arkansas. At least part of the success the Department of Human Services in Arkansas has had in containing reimbursement rates for nursing home care can be attributed to the use of the percentile methodology in a prospective rate setting system.

UTILIZATION ANALYSIS

As Table B illustrates, Medicaid recipients in Arkansas are utilizing long term care at greater rates than Medicaid recipients in the South Central region or the nation. For example, during 1979 (the latest year national utilization data is available from the federal government) total Medicaid patient days of long term care in Arkansas were 135% of the average for the region and 129% of the average for the nation. In the absence of medical need to explain this high use

of nursing home care, the Arkansas Medicaid program could save money by utilizing alternative, less costly methods of health delivery.

Breaking down long term care into skilled and intermediate care, Tables C and D illustrate that Medicaid recipients in Arkansas tended to receive skilled care at lower rates and intermediate care at higher rates than Medicaid recipients in the South Central region or the nation. Given the cost differential between the two types of care to the Department of Human Services in Arkansas,

Table B.  
TOTAL MEDICAID PATIENT DAYS  
IN LONG TERM CARE FACILITIES  
(Per 1,000 Elderly)

Year	Arkansas	South	Nation
		Central Region	
1979	12,804	9,518 (135%)	9,929 (129%)
1978	12,522	7,905 (158%)	9,605 (130%)
1977	11,607	7,720 (150%)	9,463 (150%)
1976	12,418	7,724 (161%)	9,409 (132%)

Note: The percentages in parenthesis following total patient days for the region and the nation are a comparison of these outcomes for total patient days to Arkansas.

Table C.  
MEDICAID PATIENTS (Per 1,000 Elderly)  
1.) Skilled Care

Geographic Area	1979	1978	1977	1976	1975
Arkansas	17.1	11.1	14.3	13.4	—
(N)	(1)	(1)	(1)	(1)	—
South Central Region	15.2	15.1	15.8	14.9	14.6
(N)	(6)	(5)	(6)	(6)	(5)
Arkansas as % of					
Regional Average	113%	73.5%	90.5%	89.9%	—
Nation	14.4	18.4	17.2	16.3	16.5
(N)	(40)	(41)	(43)	(40)	(40)
Arkansas as % of					
National Average	119%	60.3%	83.1%	82.2%	—

2.) Intermediate Care

Geographic Area	1979	1978	1977	1976	1975
Arkansas	39.2	41.4	35.3	38.9	—
(N)	(1)	(1)	(1)	(1)	—
South Central Region	28.7	19.6	18.8	19.2	12.7
(N)	(5)	(4)	(5)	(5)	(4)
Arkansas as % of					
Regional Average	137%	211%	188%	203%	
Nation	30.0	27.5	26.6	25.6	23.8
(N)	(40)	(41)	(41)	(40)	(39)
Arkansas as % of					
National Average	131%	151%	133%	152%	



this higher utilization of intermediate care has saved money. However, this also raises questions about the quality of care Medicaid recipients in Arkansas receive. Because Medicaid patients in Arkansas have been placed in skilled care facilities at lower rates than their counterparts in the South Central region and the nation, have they been denied needed care?

### SUMMARY

The Research Institute of Pharmaceutical Sciences at the University of Mississippi conducted a national study of reimbursement factors used by state Medicaid programs to pay for long term care. The study identified factors which are associated with lower payment rates but which do not adversely affect the access Medicaid recipients have to care. The most important cost savings mechanism discovered was the use of the percentile methodology in a prospective rate setting system, which the Department of Human Services in Arkansas uses. The use of this reimbursement system may explain the success the Medicaid program has had in holding Medicaid payments for nursing home care in Arkansas below the averages for the nation and the South Central

region. Lowering the rates of the inflation factor used in reimbursement would enhance the efforts by the Department of Human Services to contain nursing home costs. The Arkansas Medicaid program has considered allowing RONE as a reimbursable cost in the future. Based on the results of the national study, allowing RONE should increase per diem payment rates.

The utilization pattern of skilled and intermediate care in Arkansas is another area where significant cost savings have been realized. Medicaid recipients are placed in intermediate skilled care facilities at higher rates and in skilled care facilities at lower rates than the averages for Medicaid recipients in the South Central region or the nation. One utilization observation with cost implications is the higher than average utilization of long term care in Arkansas compared to the region or the nation. Alternatives to institutionalization could generate additional Medicaid savings as well as produce health benefits to the Medicaid recipients not institutionalized. One area of possible concern is that the lower than average utilization of skilled care, while reducing Medicaid expenditures, may result in the

**Table D.**  
**MEDICAID PATIENT DAYS (Per 1,000 Elderly)**

<b>1.) Skilled Care</b>					
Geographic Area	1979	1978	1977	1976	1975
Arkansas	3,297	2,181	2,684	2,682	—
(N)	(1)	(1)	(1)	(1)	—
South Central Region	2,677	2,879	3,317	3,258	3,175
(N)	(6)	(6)	(6)	(6)	(5)
Arkansas as % of					
Regional Average	123%	75.8%	80.9%	82.3%	—
Nation	2,573	3,190	3,137	3,116	3,315
(N)	(39)	(41)	(42)	(40)	(41)
Arkansas as % of					
National Average	128%	68.4%	85.6%	86.1%	—
<b>2.) Intermediate Care</b>					
Geographic Area	1979	1978	1977	1976	1975
Arkansas	9,507	10,341	8,923	9,736	—
(N)	(1)	(1)	(1)	(1)	—
South Central Region	6,841	5,026	4,403	4,466	3,077
(N)	(5)	(5)	(5)	(5)	(4)
Arkansas as % of					
Regional Average	139%	206%	203%	218%	—
Nation	7,356	6,415	6,326	6,293	5,761
(N)	(39)	(38)	(41)	(40)	(40)
Arkansas as % of					
National Average	129%	161%	141%	155%	—

delivery of care below the level required by the Medicaid recipient.

These recommendations concerning Medicaid reimbursement for long term care in Arkansas are based on the results of a national study, including a comparison of Arkansas to the South Central region and to the nation. The recommendations in this study must be viewed within the context of the political and administrative environments. However, they warrant serious consideration for implementation either in their present or modified form.

#### FOOTNOTES

1. U.S. Department of Health and Human Services, Health Care Financing Administration, Office of Policy, Planning and Research, *State Tables, Medicaid: Recipients, Payments and Services*, published annually

1975-1979, lists data for Medicaid patients, Medicaid patient days, and average length of stay.

Data for Medicaid certified skilled and intermediate care beds were obtained from the regional offices of DHHS with the assistance of Congressman Jamie Whitten.

2. Robert Buchanan, *Health Care Finance* (Lexington, MA: Lexington Books, 1981), pp. 40-45, 100-102, for a discussion of linking prospective reimbursement to a quality of care mechanism. Also for a discussion of incentive reimbursement see Hirsch Ruchlin, et al, "Long Term Care Marketplace: An Analysis of Deficiencies and Potential Reforms by Means of Incentive Reimbursement," *Medical Care*, 13:979-991, December, 1975.
3. State of Michigan, Department of Social Services, *State Plan Under Title XIX of the Social Security Act*, Attachment 4.19-D, (IV.C.), "Variable Quality of Care Penalty Factor," p. 10.





# Arkansas Model for The School Health Curriculum Project (Berkeley Model)

Arvil W. Burks, Ed.D.\*

In the late 1960's and early 1970's, health educators recognized that health behavior problems among teenagers posed a serious national health problem. National surveys of teenagers made during that period indicated that every day about 3,200 children between the ages of 12 and 18 tried their first cigarette — resulting in over a million new teenage smokers a year. Problems related to alcohol and drug use and abuse, poor eating habits and nutrition and lack of proper exercise were also indicated.

To combat these growing problems, the National Clearinghouse on Smoking and Health and the Center for Disease Control of the United States Public Health Service fostered the development and dissemination of an innovative health education curriculum for elementary and junior high students (Grades 4-7). The curriculum has become known as the School Health Curriculum Project (Berkeley Model). In more recent times a curriculum for grades K-3 has been developed by the American Lung Association and the Center for Disease Control. The overall goal of the project is to give children a thorough understanding of personal health as a foundation for the intelligent care of their bodies. The curriculum may be integrated with other subjects such as the language arts, reading, math, art, music, physical education, and ecology.

The curriculum has been validated by the National Diffusion Network for dissemination through the United States Office of Education. The project has proven to be very successful in approximately 45 states throughout the nation, including Arkansas. The University of Central Arkansas in Conway has been one of three national teacher training centers funded by the National Diffusion Network. Approximately 40 school districts in Arkansas are now implementing the curriculum. Teacher training is a required component of the project. The curriculum is taught by classroom teachers in grades K-6. No special teacher certification is required. Once teachers are trained and teach the unit in the classroom, they then teach other teachers in their

respective districts, thus providing lateral spread for the curriculum.

## STATE-WIDE PLAN

Largely due to early funding efforts in Arkansas by the Office on Alcohol and Drug Abuse Prevention, and Arkansas Blue Cross and Blue Shield, and with supporting help from the American Lung Association of Arkansas, the Arkansas Affiliate of the American Heart Association, and the Arkansas Division of the American Cancer Society, the project has been included in the state health plan as developed by the Maternal/Child Health Advisory Sub-Committee of the Arkansas Statewide Health Coordinating Council. Dr. G. A. Buchanan has served as chairman of the subcommittee. The goal of the committee is to incorporate the fourth, fifth, and sixth grade units into every district in Arkansas. The Arkansas Chapter of the American Academy of Pediatrics and the Arkansas Medical Society have endorsed the project, and will cooperate with its dissemination.

The goals and objectives include development of five resource/teacher training centers based at universities around the state, whereby teachers are trained in each grade level and instructional materials are loaned to the participating schools. Funds will need to be raised to finance the centers.

## STRATEGIES FOR IMPLEMENTATION

The Arkansas Medical Auxiliary adopted the program as a statewide project for 1982-83, and has again for 1983-84. County units of the Auxiliary will be asked to develop its own coalition of interested business and professional groups to raise funds and to recruit schools to participate in the project.

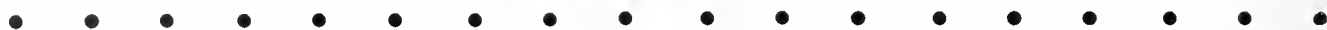
Information about the project will be sent to all members of the Arkansas Medical Society and to the Arkansas Chapter of the American Academy of Pediatrics so that each physician may have the opportunity to help disseminate the project. Printed literature and a slide series explaining the curriculum will be available through the Auxiliary. For additional details, contact the Department of Health Education at the University of Central Arkansas, Conway, Arkansas 72032.

\*Arvil W. Burks, Chairman, Department of Health Education, UCA, P. O. Box 1776, Conway, Arkansas 72032.

# ELECTROCARDIOGRAM



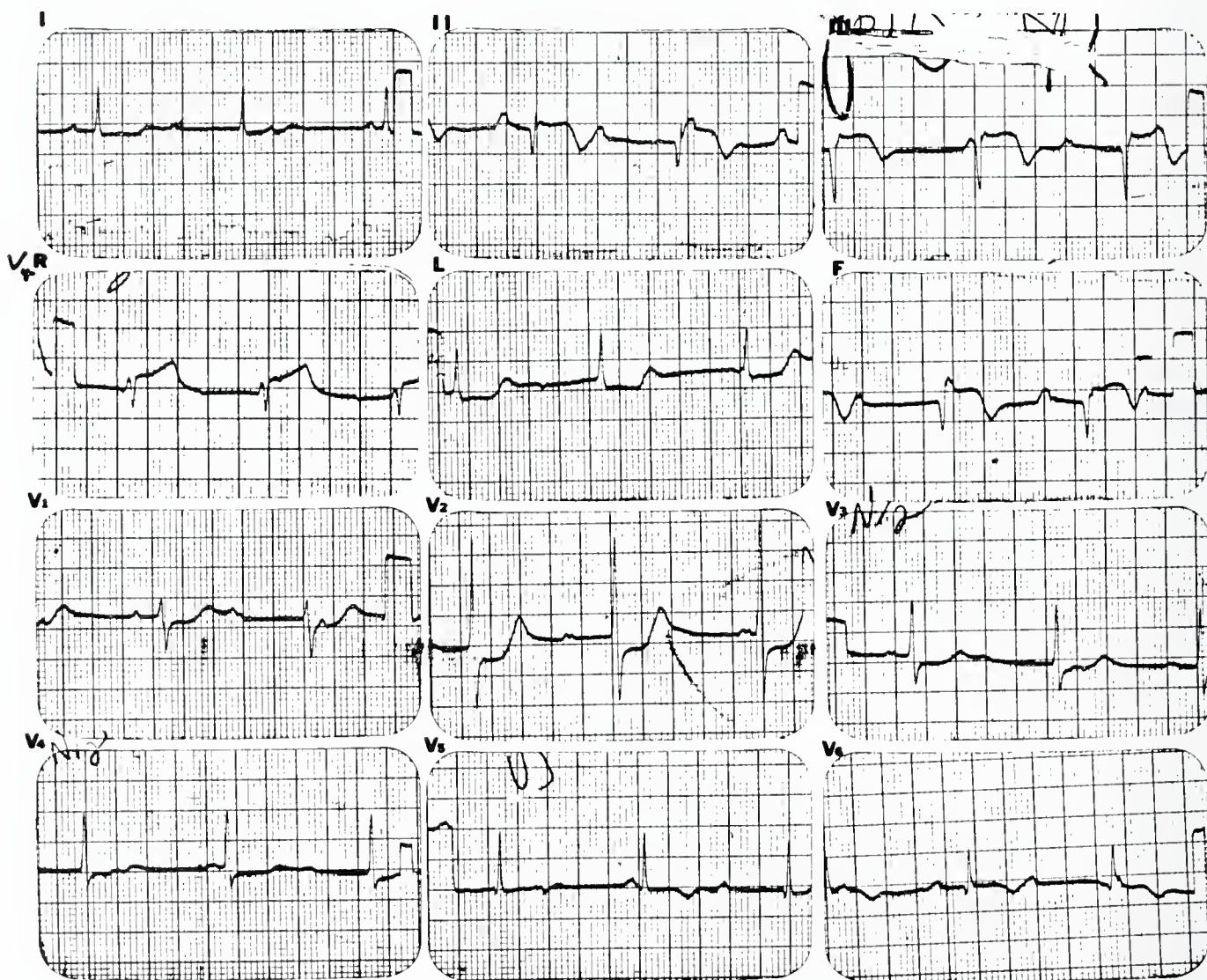
# OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 309)

HISTORY: J. B. is a 42-year-old man who presented to the hospital after experiencing crushing substernal chest pain which lasted for two hours. On physical examination, he was hypotensive and had marked neck vein distension, but no rales were present. He agreed to right heart catheterization, which revealed a right atrial mean pressure of 20 mmHg (normal 0-8 mmHg), but little change either in pressure contours or mean pressure was noted with advancement of the right heart catheter from the right atrium to the pulmonary artery. His left ventricular filling pressure was 15 mmHg. The patient's ECG with AVR replaced by V<sub>4</sub>R is shown. What do you think has taken place?



Sharilynn Stanley, M.D., and John W. Watson, M.D.

UAMS-LRVAMC Division of Cardiology

Little Rock, Arkansas





## Post-Traumatic Carpal Instability Awareness and Recognition

Kenneth G. Jones, M.D.\*

The decade just ended was both rewarding and stimulating for physicians who attend patients with disabling wrist problems. Prior to 1972 when Linscheid, Dobyns, et al.<sup>1</sup> presented an indepth study of instability of the wrist following trauma, surgeons, for the most part, had attended these problems as unique medical experiences. Earlier publications<sup>2-7</sup> dealing with this subject seem to have evoked a limited response from medical investigators. The frequency of occurrence of carpal instability following trauma was unknown. The patterns of mal-relationships of the carpal bones, now recognized to be recurrent and somewhat predictable, had not been taxonomized. Recognized and reported cases had been too few to permit classification. The presentation by The Mayo Clinic group, destined to become a medical classic, considered diagnosis, proposed a classification, and evaluated the pathomechanics of this incompletely understood problem. Now, as a consequence of our increased awareness and enhanced understanding of carpal instability, it is seen (recognized) much more frequently. Too, other investigators<sup>8-15</sup> have been stimulated to add to the sum of our knowledge in this area. We are now arriving at a clinical understanding of this often disabling problem. More efficacious methods of management have evolved and will continue to evolve.

Patients with carpal instability present themselves with a painful, usually swollen, wrist with restricted motion. These findings are exaggerated by stress. Most patients recall trauma to the area.

A fracture, a dislocation or some combination thereof, may or may not have been appreciated initially. There are, however, individuals who without any history of trauma, demonstrate deviations from those carpal relationships we regard to be normal. These unsettling and not completely understood patients probably represent developmental deviations. As a rule, they do not experience the major wrist disabilities seen in unequivocal post-traumatic cases. Bilateral deviations may be seen.

Occasionally, the examiner will be able to demonstrate a clicking sensation on compression and rotation of these painful swollen wrists, but little else in addition to the obvious is to be found on physical examination of the symptomatic area. The diagnosis is dependent on adequate radiographic studies. Good x-rays (posteroanterior, anteroposterior, and true lateral films) are fundamental to the diagnosis. In some instances, additional special studies, later, will add to the physician's knowledge. But first the routinely obtained films are methodically scrutinized for alterations in the normal relationship of the carpal bones. Any pattern of instability, with or without a fracture, would seem possible. However, scapholunate (radial), triquetrohamate and triquetrolunate (ulnar) instabilities are those most frequently encountered. Close review should be given to these areas.

Lateral x-rays of the normal wrist area with the carpus and the forearm in the true neutral position demonstrate that the longitudinal axes of the radius, the lunate, the capitate, and the third

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metacarpal head are colinear. The axis of the scaphoid and the axis of the lunate form an angle which averages 46 degrees (Fig. 1). Variation between 30-60 degrees is considered to be within normal limits. The physician who reviews these films must appreciate these normal relationships if he is to ferret out the often subtle abnormal relationships found between unstable carpal bones.

When carpal instability is suspected, the routine posteroanterior projection with the hand in a neutral position should be supplemented by posteroanterior films made with the wrist in both full radial and full ulnar deviation. In addition, the same views of the patient's opposite normal extremity are often helpful. For that reason, they should be obtained when the diagnosis is sus-

pected but is not evident. The spaces between the carpal bones are examined closely on all of these films. Normally, these spaces are no greater than 2 mm. and are essentially the same for all intercarpal articulations. Significantly, they will remain unaltered throughout all wrist motion if a fracture does not exist and if the extrinsic and intrinsic ligaments of the wrist are sound (Fig. 2). Deficient and disrupted ligaments permit abnormal motion patterns, especially when compressive forces are transmitted through the carpus. A gap greater than 2 mm. between the scaphoid and lunate seen on the neutral posteroanterior film (Fig. 3) is indicative of scapholunate dissociation, the most commonly encountered instability pattern. Such a wrist in full ulnar deviation will show, on the posteroanterior film, that this ab-

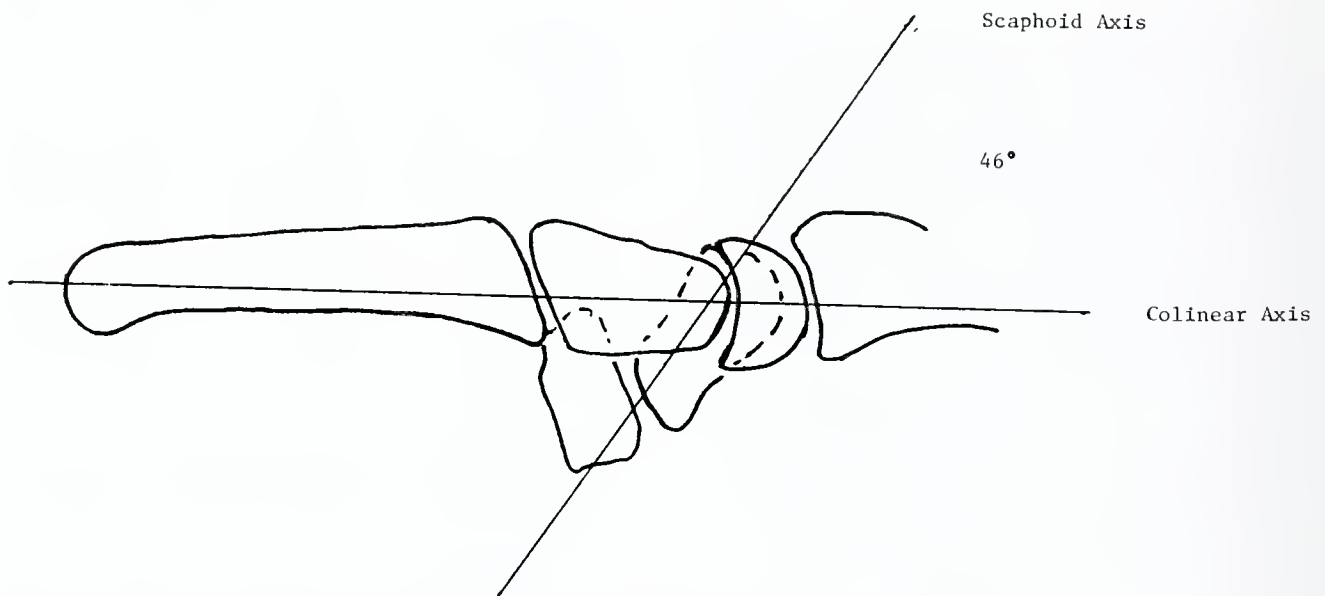


Figure 1.

The normal axes of the wrist.

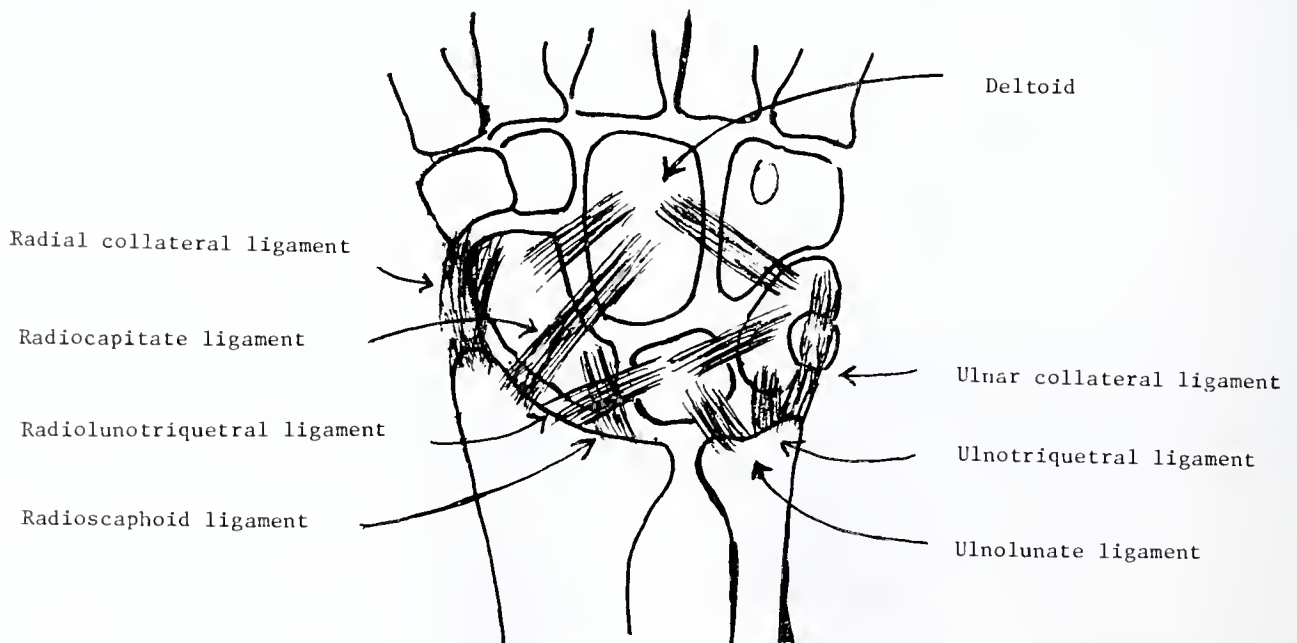


Figure 2.

Volar intracapsular extrinsic ligaments of the left wrist.



normally wide space between the scaphoid and lunate bones is further exaggerated. This abnormality may be even more obvious when the x-ray is made anteroposterior rather than posteroanterior. Radial deviation will, as a rule, demonstrate narrowing of the widened space. This abnormal movement, in the absence of a fracture, is a consequence of ligamentous deficiency. Also, these posteroanterior and anteroposterior films present the scaphoid as fore-

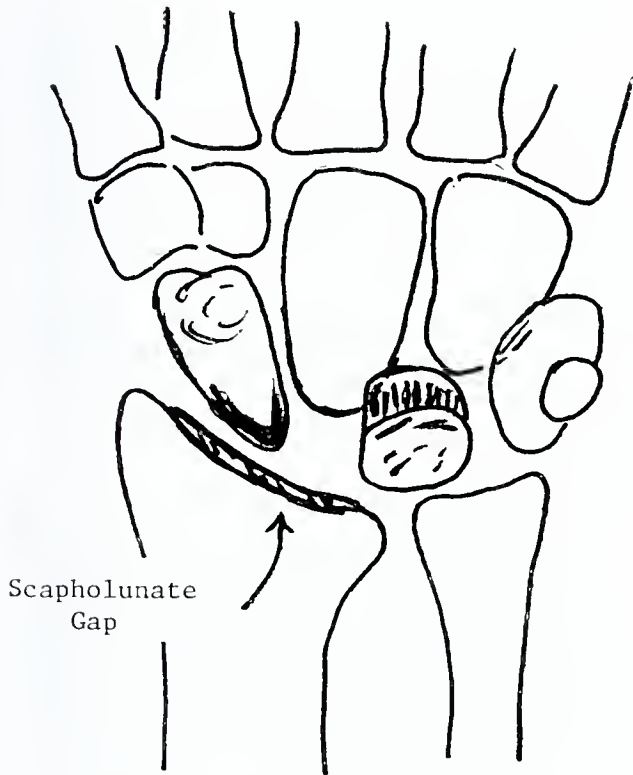


Figure 3.

Scapholunate dissociation is demonstrated by widening of the scapholunate gap, vertical rotation of the scaphoid, dorsal tilting of the lunate, a decrease in the radiocapitate height and a slight ulnarward translocation of the carpus—Dorsal-Intercalary-Segmental-Instability (DISI).

shortened as a consequence of its exaggerated vertical position. On the true lateral film, the proximal angle between the axis of the scaphoid and the axis of the lunate will be observed to be greater than the usual 46 degrees (Fig. 4). As the gap between the scaphoid and lunate bones widens, the normal compressive forces across the wrist will force the head of the capitate to intrude into this void reducing the capitoradial height. This decrease in height will, in effect, lengthen the radiocapitate ligament tending to create an ulnar translocation of the carpus on the radius (Fig. 3). In the presence of scapholunate dissociation, the lunate as seen on the posteroanterior films can appear to be superimposed on the capitate to a greater extent than usual as a consequence of its rotation, dorsal or volar.

The interrelated factors which determine the clinical picture seen in traumatic carpal instability are: the extent and the mechanism of stress loading, the bony architecture, the musculotendinous support and the severity of ligament damage. While this interrelationship is extremely complex and no doubt is not fully understood by any investigator, it is of clinical value to us to observe that the usual mechanism of injury is one of extension, ulnar deviation and supination of the hand relative to the forearm. Forces produced are transmitted through those structures constituting the midcarpal joint, the radiocarpal joint and the radius. As stress is increased, any injury to tissues progresses from the radial side to the ulnar side of the hand. If that force is sufficiently great, the triangular cartilage or even the distal radioulnar

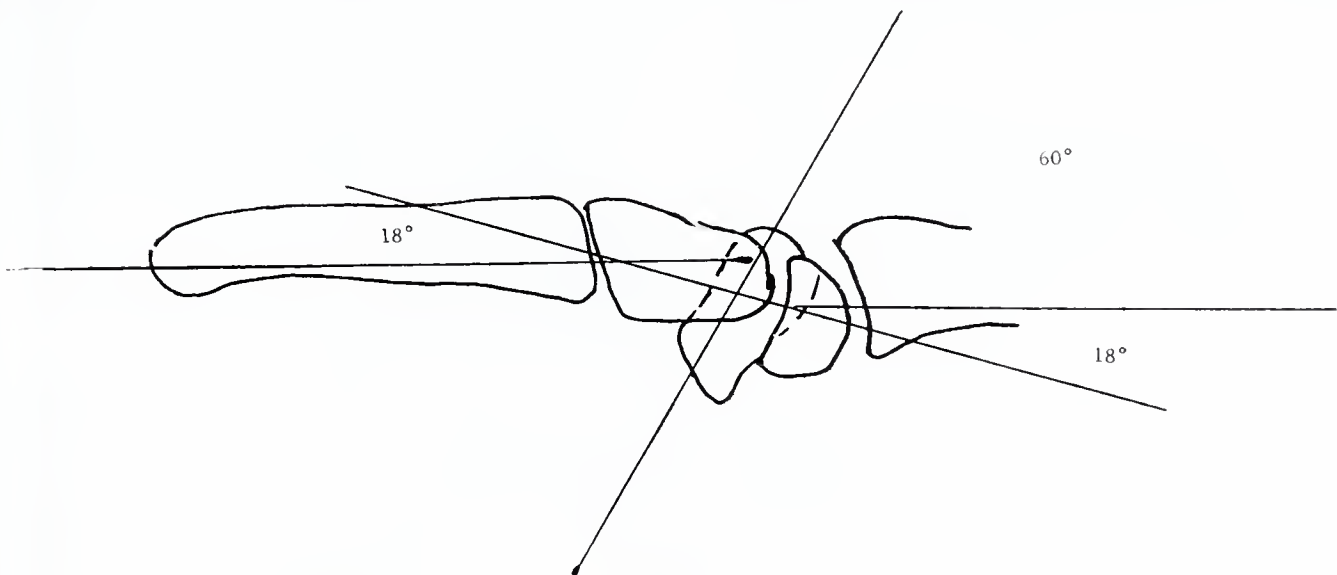


Figure 4.

DISI as seen on a lateral projection—The distal segment of the colinear axis is disrupted and displaced upward. The angle between the axis of the scaphoid and the axis of the radius is increased to 60 degrees. As a consequence of a volar shift and a dorsal rotation of the lunate, its axis is no longer colinear. Thus, the angle between the axis of the scaphoid and the axis of the lunate is increased to 78 degrees. The capitate is flexed relative to the lunate.

joint will be disrupted. In many instances, however, the damage is less severe. It is often limited to ligaments, with or without a concomitant fracture of the radius, the scaphoid or the triquetrum or a dislocation of the lunate. If the ligaments are damaged, the radial collateral ligament tears first, followed by tearing of the radiocapitate ligament, or the radial styloid process may be avulsed. If the force is of sufficient magnitude, additional tearing of the extrinsic ligaments occurs along with damage to the intrinsic interosseous ligaments. Though this is the usual traumatic pathomechanical picture producing carpal instability, any combination of stress and resulting injury is possible. For example, a healed but unreduced dorsally angulated fracture of the lower radius may be found to be associated with symptomatic Dorsal-Intercalary-Segmental-Instability (DISI), usually without scapholunate dissociation. In this instance the lunate is rotated so that its distal concave surface is tilted upward like a dry moon.

Although the problem is and will remain mechanically complex, it is possible to construct a classification for carpal instabilities based on those abnormal relationships seen between the carpal bones. The patient's symptoms arise from these abnormalities. We now can recognize the following:

#### Radial side of hand:

- Scaphotrapezial dissociation—rare
- Scapholunate dissociation—most common  
The convex surface of the lunate faces dorsalward with malalignment of its axis.

The scaphoid is more erect than is normal (foreshortened). The proximal angle formed between the axis of the scaphoid and the axis of the lunate is greater than 60 degrees. This malalignment can conveniently be designated as a DISI deformity (Dorsal-Intercalary-Segmental-Instability). The concave surface of the lunate faces dorsalward (Fig. 4).

#### Ulnar side of the hand:

- Triquetrohamate instability without scapholunate dissociation may produce a DISI deformity or a VISI (Volar-Intercalary-Segmental-Instability) where the concave surface of the lunate faces downward resembling a wet moon (Fig. 5).
- Triquetrolunate instability—classically manifest as a VISI deformity. Again, the lunate is rotated so that the distal fossa faces downward.

#### Central

- Radiocarpal joint translocation with the carpus migrating ulnarward due to bony collapse and/or ligamentous relaxation as occasionally seen following trauma and as frequently seen in rheumatoid arthritis.
- Midcarpal shifting—apparently a chronic-adaptive accommodation occasionally seen following a fracture of the radius which has healed with a dorsal tilting of its distal articular surface. This is usually

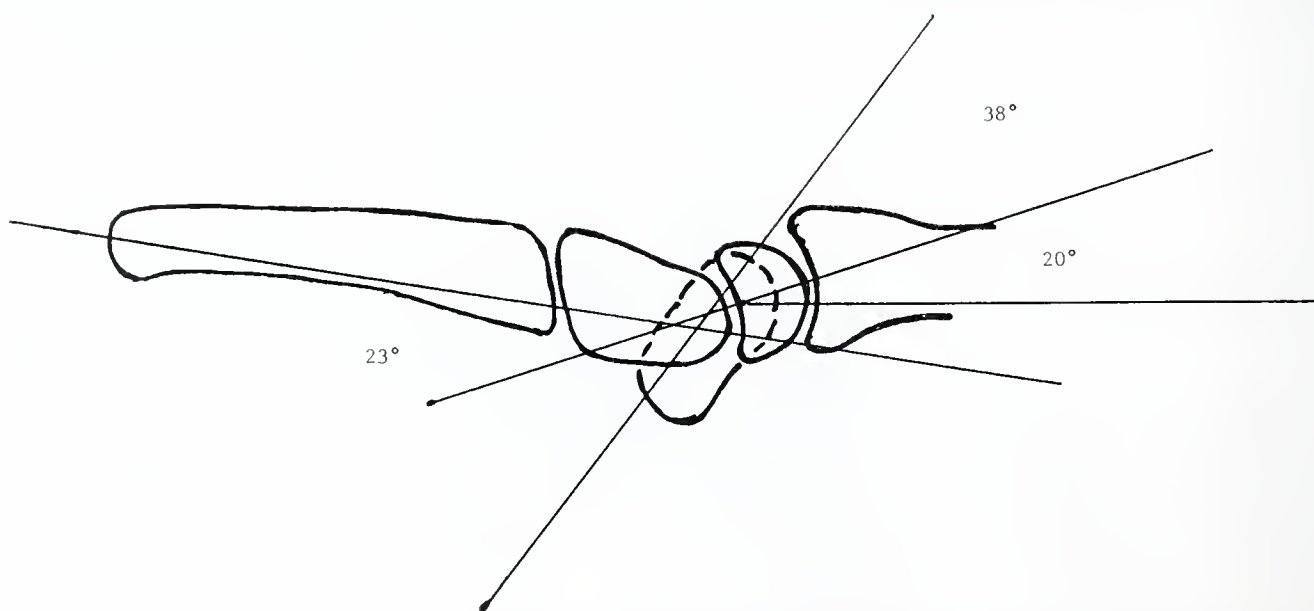


Figure 5.

Volar-Intercalary-Segmental-Instability (VISI)—The colinear axis is again disrupted and is, in this instance, tilted downward. The angle between the scaphoid and the radius is 58 degrees. The lunate is rotated downward so that its axis is malaligned 20 degrees with the axis of the radius and 23 degrees relative to the axis of the capitate. The scapholunate angle is 38 degrees, within the normal range, suggesting that scapholunate dissociation is not present.



manifest as a DISI deformity without scapholunate dissociation.

If, after review of the films considered above, the surgeon is still unable to establish a diagnosis, one or all of the following modalities of examination may add to his knowledge: Cineradiography, rectilinear tomography, computer tomography or arthrography. Arthrographic studies of both the midcarpal joint and the radiocarpal joint can be helpful on occasions.

Awareness of carpal instabilities is more fundamental than experience in establishing a correct diagnosis for the chronically painful wrist.

Unfortunately, management as well as diagnosis of these patients can be difficult. Those whose instability is a result of recent trauma must obtain an anatomical reduction, by closed or open means as required, followed by 6-12 weeks of stabilization if fractures are to heal and if ligamentous integrity is to be reestablished and chronicity avoided. Plaster immobilization should be augmented by percutaneous pins or by internal stabilization, when needed, to assure that healing of the damaged ligaments will occur across anatomically restored joint spaces. Some patients with chronic problems can be managed with a removable splint and conscious restriction of use of the extremity. Surgery, the only alternative in the presence of chronicity, usually consists of an arthrodesis or an arthroplasty or some combination of the two procedures. Ligamentous repairs and tendon substitutions have not been successful routinely in patients with chronic problems. Patients with acute injuries should undergo open repairs if an anatomical reduction is not possible by closed means or if the reduction cannot be held by plaster alone or by plaster and percutaneous pins.

As difficult as this problem may seem to be, progress is being made in understanding and in

treating the painful wrist. The coming decade will, no doubt, prove to be even more rewarding and more stimulating.

#### BIBLIOGRAPHY

1. Linscheid, R. L., Dobyns, J. H., Beabout, J. W., and Bryan, R. S.: Traumatic Instability of the Wrist. *J. Bone Joint Surg. (Am.)* 51:1612-1632, 1972.
2. Gilford, W. W., Bolton, R. H., and Lambiundi, C.: The Mechanism of the Wrist Joint with Special Reference to Fractures of the Scaphoid. *Guy's Hospital Rep.* 92:52, 1913.
3. Campbell, R. D., Jr., Lance, E. M., and Yeoh, C. B.: Lunate and Perilunar Dislocations. *J. Bone Joint Surg. (Br.)* 46:55-72, 1964.
4. Campbell, R. D., Jr., Thompson, R. C., Lance, E. M., and Adler, J. B.: Indications for Open Reduction of Lunate and Perilunate Dislocations of the Carpal Bones. *J. Bone Joint Surg. (Am.)* 47:915-937, 1965.
5. Fisk, G. F.: *Carpal Injuries in the Hand*, by R. G. Pulvertaft, Toronto. Bittenworth & Company, Ltd., 1966.
6. Fisk, G. F.: Carpal Instability and the Fractured Scaphoid. *Ann Roy Coll. Surg. Engl.* 46:63-76, 1970.
7. Armstrong, G. W. D.: Rotational Subluxation of the Scaphoid. *Can. J. Surg.* 11:306-314, 1968.
8. Howard, F. M., Fahey, R., and Wojcick, E.: Rotatory Subluxation of the Navicular. *Clin. Orthop.* 101:134-139, 1974.
9. Gilula, L. A., and Weeks, P. M.: Post-Traumatic Ligamentous Instability of the Wrist. *Radiology* 129:611-651, 1978.
10. Mayfield, J. K., Johnson, R. P., and Kilcoyne, R. K.: Carpal Dislocations: Pathomechanics and Progressive Perilunar Instability. *J. Hand Surg.* 5:226, 1980.
11. Watson, H. E., and Hempton, R. F.: Limited Wrist Arthrodesis. I. The Triscaphoid Joint. *J. Hand Surg.* 5:320-327, 1980.
12. Watson, H. K.: Limited Wrist Arthrodesis. *Clin. Orthop.* 119:126-136, 1980.
13. Taleisnik, J.: Post-Traumatic Carpal Instability. *Clin. Orthop.* 119:73, 1980.
11. Green, D. P.: *Operative Hand Surgery*. Churchill Livingstone, New York, 1982.
15. Taleisnik, J., Malerich, M., and Prietto, M.: Palmar Carpal Instability Secondary to Dislocation of Scaphoid and Lunate: Report of Case and Review of the Literature. *J. Hand Surg.* 7:606, 1982.





## PUBLIC HEALTH AT A GLANCE

# Environmental Regulation

Jerry G. Hill

In the past few years there has been an intense interest in man's surroundings brought on by the number of illnesses associated with the environment. Such serious diseases as mesothelioma from asbestos exposure, carcinoma from tobacco smoke, black lung in coal miners are clearly established examples of environmental induced illnesses.

Many other substances as dioxin, DDT, etc., are capable of causing adverse health effects.

These problems have been dramatized by such books as *The Silent Spring* and by media coverage that sometimes is more in the interest of sensationalism than objective reporting. As a result, it is very difficult for the ordinary man to view this subject from a balanced perspective and, in turn, the problem of developing rational legislation with accompanying regulations is very complicated.

By the same token, the enforcement of complex and sometimes impractical environmental regulations is difficult or almost impossible. I recently read an article in the American Journal of Public Health, titled "Contamination of the Food Chain by Polychlorinated Biphenyl from a Broken Transformer."<sup>1</sup> A person could ask what an article about a broken transformer is doing in a well known public health journal.

Polychlorinated Biphenyls or PCB's are becoming a widespread concern among scientists who associate human health effects with their environmental exposure. In this particular case, chicken and egg food products were contaminated with PCB's. The contamination was traced back to an accidental leakage of PCB's from a transformer stored in a food processing plant in Montana. Breast milk analysis showed that PCB absorption had occurred among egg consumers.<sup>1</sup> The situation clearly demonstrates the need for continuous monitoring of the food chain for contaminants.

Even though PCB's were banned by the Environmental Protection Agency in the seventies and are no longer used as coolants or insulators in transformers and capacitors, it will be many years before Federal and State Agencies will have their use under control. This is partially because of their widespread use and also due to the fact that PCB's are in the possession of many unregulated individuals.

Another factor that enters into environmental regulation is how far is one to actually regulate. In a report published by the Institute of Medicine in 1981 on the "Cost of Environment Related Health Effects: A Plan for Continuing Study" — the statement is made that, "the effects of environmental factors on human health and well being have attracted increasing attention in recent years. Environmentally related health problems are the major concern because they contribute substantially to the rising cost of illness and because most of them are theoretically preventable."<sup>2</sup> While environmental related problems can contribute to rising health cost there is a greater concern for what is known as "cost benefit analysis." This is a process by which lawmakers and regulators weigh the potential health effects against the sheer economics of enforcing the regulation. Any time a business is regulated someone has to pay. Initially the business will pay, however, eventually the consumer will bear the brunt of the cost.

We are all aware of the number of deaths that occur each year that are due to automobile accidents. The number of deaths could be completely eliminated if we did away with the automobile. However, the benefit of advanced transportation outweighs the potential deaths that would occur. The fact of the matter is the public has learned to accept the risks associated with operating their automobile.

Another example of cost benefit analysis would be with regard to the broad use of pesticides and

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herbicides in Eastern Arkansas. We can theoretically say that there are long range health problems being created due to the use and misuse of these weed and pest deterrents. With improved technology, crop yields have increased many times over those of the 1960's. To the farmer, pests and weeds are a threat to his livelihood and without these proper tools the farmer would realize a substantial drop in crop yields and Arkansas, as well as the nation, would suffer overall. We could restrict or even eliminate the use of these chemicals but the end result would not justify the means.

In the face of these dilemmas, both national and state level government agencies seem helpless and ill equipped to address both the public's concerns as well as the cost benefit associated with the enforcement of regulations. Agencies have to be both responsive and responsible for what does and does not happen when it comes to dealing with the enforcement of regulations. This can be frustrating to many conscientious employees who guide and direct the activities of these agencies.

Under the broad legislation by which the Board of Health operates, there is no mention of chemicals, toxic wastes, hazardous substances, accident prevention, or economics. However, in the broad interpretation of Act 96 of 1913, the Board of Health has the authority to "act for the better protection of the public health."<sup>3</sup> The Act speaks to the powers of the Board of Health, preservation of public health, and the prevention of disease.

The Department of Health under the direction of the Board of Health has learned a new meaning to the word "prevention." Prevention in dealing with disease, in most cases, involves a short term cause and effect. However, the new area of concern in dealing with the "may be hazardous to your health" category requires volumes of historical data and much speculation to determine potential long range health effects. Fortunately or unfortunately due to recent media scares, the public is demanding a more intense response to these long range problems. Government agencies are striving to respond to these problems; however, they find themselves in an ever changing field where data needed for decision making is not always available.

This is only part of the problem. The other part has to do with a changing of attitude or philosophy. The traditional preventive role of

the State Health Departments has become fragmented. In a book published by the Institute for Contemporary Studies entitled, *Social Regulation, Strategies for Reform*, this change of philosophy is discussed. "The decade of the 1970's brought about two major trends in government regulation of the private sector — an explosion of new "social regulation of health, safety and the environment, and a growing awareness that many of the older economic regulations of specific industries were counter productive and in need of reform or repeal."<sup>4</sup>

During this time of reform, major segments of the federal government reorganized. The reorganization primarily sought to address man's overwhelming desire to protect and preserve the natural environment. With the advent of the Environmental Protection Agency (EPA) the emphasis of public health agencies, in regard to the environment, changed from being concerned for the effects of the environment on man to a concern of man's effect on his environment. Since that time EPA has tried to develop into a total environmental agency, but lacks the background and knowledge of public health to exercise the necessary expertise to deal with health protection. With the conquest of polio, malaria, diphtheria, rickets, scurvy and many other diseases, a paradoxical complacency has developed. The demands that once placed prevention a high priority are no longer as critical. We have a tendency to take our health for granted. We forget that our good health can be attributed to the efforts made at preventing disease rather than treating it.

As former President Jimmy Carter stated in the Surgeon General's Report on Health Promotion and Disease Prevention, "Government, business, labor, schools and health professions must all contribute to the prevention of injury and disease, and all of these efforts must ultimately rely on the individual decisions of millions of Americans — decisions to protect and promote their own good health."<sup>5</sup>

#### REFERENCES

1. Drotman, D. Peter, Baxter, Peter J., Liddle, John A., Brokopp, Charles D., and Skinner, Martin D.: Contamination of the Food Chain by Polychlorinated Biphenyls From a Broken Transformer. *American Journal of Public Health*, 1983, March 1983, No. 3, p. 290.
2. Institute of Medicine: A plan for Continuing Study: Cost of Environment, Related Health Effects. Washington, D.C., National Academy Press, January, 1983.

3. Arkansas Department of Health: Act 96 of 1913, Arkansas State Board of Health, 1913.
4. Bacow, Lawrence S., Danaceau, Paul, Eads, George C., Ferreira, Joseph, Grumbly, Thomas P., Havender, William R., Levin, Michael H., O'Hare, Michael, Pape, Stuart M., and Sullivan, Timothy J.: Social Regulation, Strategies for Reform. Institute for Contemporary Studies, San Francisco, California, 1982.
5. The Surgeon General's Report on Health Promotion and Disease Prevention (Letter from former President Jimmy Carter). U.S. Department of Health, Education and Welfare, DHEW (PHS), Publication No. 79-55071.



## Update in Dermatology

### Urticarial Vasculitis

Jere D. Guin, M.D.\*

Most clinicians consider management of chronic urticaria (CU) more difficult than the diagnosis, but there can be problems. For example, some authors feel that separation of urticarial vasculitis (UV) from CU is impossible because these conditions (in their opinion) overlap. However, separation in one's mind is important because both the associated causes and the management of the patient differ.<sup>1</sup> Circulating immune complexes induce UV, as the symptomatology suggests (Table I). Underlying causes of UV include hepatitis B, SLE, infectious mononucleosis, serum sickness reactions, rheumatic fever, and anaphylactoid purpura.<sup>2</sup> Further, UV responds favorably to treatment with indomethacin and other cyclo-oxygenase inhibitors<sup>3</sup> while such medications often aggravate ordinary CU,<sup>4,7</sup> and antihistamines benefit CU,<sup>1</sup> but not UV.

To separate these two conditions one must use multiple clinical criteria since no one finding is entirely specific or reliably present.<sup>2</sup> Histologic separation is somewhat controversial<sup>8,9</sup> probably because the characteristic histologic findings are only present for about one day,<sup>10,12</sup> and specimens are seldom taken this early. The most suggestive histologic finding in UV is a fibrinoid deposit because other inflammatory changes can mimic those also seen in CU.

Clinical symptoms and signs that suggest UV can be found in Table I. Urinalysis may show

microscopic hematuria and proteinuria. The erythrocyte sedimentation rate is usually elevated,<sup>8</sup> but exceptions occur, and this test is not very specific.

Abnormally low complement levels probably occur in the minority of cases that one is likely to see.<sup>8</sup> The incidence of complement alteration varies greatly among the various series of UV probably because the differences in the patient populations. For example, case histories collected in a rheumatology clinic would be more likely to contain an abnormally low level of a complement component, just as it might have a higher incidence of positive antinuclear antibody tests. A checklist of findings (Table I) and of proper

**Table I.**  
**SYMPTOMS AND SIGNS**  
**IN URTICARIAL VASCULITIS**

1. Duration over 24 hours
2. Burning or pain rather than itching
3. Scaling during involution
4. Deep swelling
5. Erythema multiforme-like lesions
6. Raynaud's symptoms
7. Purpura
8. Lymphadenopathy
9. Fever
10. Abdominal pain
11. Livedo reticularis
12. Residual discoloration
13. Arthritis

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laboratory determinations (Table II) helps to separate CU from UV. Once the diagnosis of UV is made, tests for a probable cause are in order including those for viral and rheumatologic diseases. In addition to the conditions previously mentioned, drugs not infrequently cause UV with deep swelling and arthritis. Penicillin, for example, is well known as a cause of serum sickness drug reactions. Although blockers of cyclooxygenase are used therapeutically for UV, allergy to aspirin must be excluded as the cause before that agent is used. Routine searches for a cause of CU can be frustrating, but they are extremely important in managing patients with UV. I use a printed history form for both types of urticaria that contains numerous checklists of both possible causes and known aggravating factors that the patient might not suspect. A detailed approach to treatment has recently been published elsewhere.<sup>1</sup>

#### REFERENCES

1. Guin, J. D.: Treatment of urticaria. *Med Clin North Am*, 1982, 66(4):831-849.
2. Monroe, E. W.: Urticarial vasculitis, an updated review. *J A Acad Dermatol*, 1981, 5:88-95.
3. Mills, J. L., Randle, H. W., Solley, G. O., and Dicken, C. H.: The therapeutic response of urticarial vasculitis to indomethacin. *J Am Acad Dermatol*, 1980, 3:349-356.
4. Wojnar, R. J., Hearn, T., and Starkweather, S.: Augmentation of allergic histamine release from human leukocytes by nonsteroidal anti-inflammatory analgesic agents. *J Allergy Clin Immunol*, 1980, 66:37-45.
5. Moore-Robinson, M., and Warin, R. P.: Effect of salicylates in urticaria. *Br Med J*, 1967, 4:262-26.
6. Champion, R. H., Roberts, S. O. B., Carpenter, R. B., and Roger, J. H.: Urticaria and angioedema: a review of 554 patients. *Br J Dermatol*, 1969, 81:588-597.
7. Douglas, H. M. G.: Reactions to aspirin and food additives in patients with food urticaria, including physical urticarias. *Br J Dermatol*, 1975, 93:135-13.

**Table II.**  
**LABORATORY TESTS**  
**IN URTICARIAL VASCULITIS**

1. Biopsy of one or more lesions
2. Erythrocyte sedimentation rate
3. Immunofluorescence examination
4. Urinalysis
5. ANA, rheumatoid factors
6. Examination for viral and bacterial antibodies
7. Immune complex determinations

8. Soter, N. A., et al: Chronic urticaria as a manifestation of necrotizing venulitis. *NEJM*, 296:1110-1112, 1977.
9. Phanuphak, P., Kochler, P. F., Stanford, R. E., et al: Vasculitis in chronic urticaria. *J Allergy Clin Immunol*, 1980, 65:436-441.
10. Cochrane, C. C.: Studies on the localization of circulating antigen-antibody complexes and other macromolecules in vessels. II. Pathogenetic and pharmacodynamic studies. *J Exp Med*, 1963, 118:503-513.
11. Braverman, I. M., and Yen, A.: Demonstration of immune complexes in spontaneous and histamine-induced lesions and in normal skin of patients with leukocytoclastic angiitis. *J Invest Dermatol*, 1975, 61:105-112.
12. Gower, R. G., Sams, W. M., Thorne, E. G., Kohler, P. F., et al: Leukocytoclastic vasculitis: sequential appearance of immunoreactants and cellular changes in serial biopsies. *J Invest Dermatol*, 1977, 69:477-484.



#### ANSWER—Electrocardiogram of the Month

**DISCUSSION:** The patient's trace shows him to have an atrial rate of 88 per minute and a ventricular rate of 62 per minute. The QRS complexes are narrow and regular. Evidence of acute inferior myocardial infarction is present with wide and deep Q-waves being noted in II, III, and AVF associated with ST elevation and T-wave inversion in II, III, and AVF along with ST depression in AVL and V<sub>1</sub>-V<sub>4</sub>. Lead V<sub>4</sub>R shows about 2 mm of ST elevation. Cohn in 1974 reported on the clinical and hemodynamic features of right ventricular infarction, which include associated inferior wall infarction, neck vein distension, high atrial pressures with little pressure or contour change through the PA position, and heart block. Klein reported in 1983 that ST elevation in V<sub>4</sub>R is a useful early indicator of right ventricular infarction with sensitivity 82.7%, specificity 76.9%, and positive predictive value 70% in a series of 58 patients with strong evidence of RV infarction. In summary then, the patient has inferior left ventricular infarction with AV dissociation, junctional rhythm, and clinical and hemodynamic evidence of right ventricular infarction. The feature editor wishes to thank Dr. Shorilynn Stonley of the UAMS Department of Medicine for her assistance with this month's feature. References: Cohn: *AJC* 33:209-214, 1974 and Klein: *Circulation* 67/Number 3:558-565, March 1983.



## EDITORIAL

# HYPERCALCEMIA

Alfred Kahn, Jr., M.D.

Mundy and Martin have published an excellent article entitled "The Hypercalcemia of Malignancy: Pathogenesis and Management" (*Metabolism*, Vol. XXXI, page 1247, December, 1982). The authors feel that the medical public does not have a good perception of the relative number of hypercalcemias to malignancy. As a consequence, they have published a table which shows that of 207 cases of hypercalcemia 54% of the total were due to primary hyperparathyroidism; 35% were due to malignancy; 6% were due to unknown causes; the other 6% were due to a great variety of causes. Their information indicates that the percentage of hypercalcemia to malignancy is 150 new patients per million per year. Different malignancies have a varying incidence of hypercalcemia. In others, there is a decrease in frequency of hypercalcemia. They are as follows: 1) lung, 2) breast, 3) hematologic, 4) head and neck, 5) renal, 6) prostate, 7) miscellaneous, and 8) unknown causes.

Of course, other causes of hypercalcemia than primary hyperparathyroidism and malignancy are included in a table by Mundy and Martin; they are as follows: 1) increased bone resorption due to primary hyperparathyroidism, 2) malignancy, 3) thyrotoxicosis, 4) immobilization, and 5) Vitamin A intoxication. There is also increased gut absorption due to 1) Vitamin D intoxication, 2) milk-alkali syndrome, 3) sarcoidosis and related diseases, and 4) idiopathic hypercalcemia. Lastly, there is a group of familial hypocalciurics including 1) thiazide diuretics, 2) Addison's disease, and 3) acute renal failure.

Mundy and Martin state the usual cause of hypercalcemia in cases of malignancy is the result of increased bony resorption. This is said to be true whether there is visible lytic lesions

or not. The authors do not feel that increased gut absorption or other causes are very likely to produce hypercalcemia of malignancy — for various reasons; they do feel that renal activity may play an important role as an additive or modifying factor in this disorder.

The authors state that resorption of bone which occurs in malignancy is probably potentiated by a number of different physiological mechanisms which influence bony formation and resorption. These factors tend to focus on the free bone cell, osteocyte and osteoblast which helps bone formation. Continuing this physiologic review, they report that parathyroid hormone causes resorption of bone; it does this by stimulating osteoclasts and there is information that parathyroid hormone directly affects bone. Another hormone which plays a role in bone metabolism is calcitonin which tends to inhibit bone resorption.

All considered, the authors feel that the blood calcium level very likely is the result of the rate of calcium absorbed in the bowel on the one hand and the resulting loss of calcium on the other hand; it does not really seem to relate to bony metastasis. Calcium absorption, they state, is likely to be related to Vitamin D in its end results. Calcium loss relates to parathyroid hormone. The above explanation is correct in adults but may not be necessarily a complete answer in children. Where malignancy exists in an adult, resorption of bone may play a big role in that so much calcium is lost in the bone that it upsets the body in maintaining proper calcium balance. The authors go on to state that parathyroid hormone seems to cause an increase in the number of osteoclasts that derive from mononuclear cells and in a later scenario parathyroid hormone seems to increase the fusion between mononuclear cells



with osteoclasts. Also, they state that parathyroid hormone may act by stimulating adenylate cyclase and cyclic AMP.

It is also said that prostaglandins can cause bone resorption — and this mechanism is very important at times. Prostaglandins are believed to increase the rate of function and the absolute number of osteoclasts.

Another important hormone involved in bone resorption is 1,25-dihydroxy-vitamin D. Mundy and Martin state it is the most powerful of the bone resorption hormones. This substance also increases the number and activity of osteoclasts; Vitamin D also causes calcium to be absorbed from the intestine. It is also a so-called osteoclast activating factor. It is reported to be a lymphokine released by certain lymphocytes. This substance also increases the number and activity of osteoclasts.

Mundy and Martin have an excellent chapter, *Mechanisms of Increased Bone Resorption in Malignancy*. In one case, there is bone resorption without evidence of any metastatic disease visible; at times some of these cases were affected by excessive parathyroid-like hormone but it is said that a majority do not produce their affect from parathyroid hormones. To establish a humoral factor as a cause of hypercalcemia of malignancy is difficult — and, as noted above, it is a rather unconventional type of resorption — for clinical acceptance the parathyroid hormone has to be present in excessive amounts and then the level has to fall after therapy, as well as other criteria. In the majority of patients other factors are at work, including E-series prostaglandins. In still another set of circumstances, probably in the majority of cases, the mediator of hypercalcemia is totally unknown. For example, EGF may be responsible for some of the bone resorption. Immune mechanisms may be responsible for some of the bone resorption. This is purely speculative.

Of course, where there is malignant obvious bony metastases, from a clinical point of view, it is easy to view the relationship. It is said that 70% of the cases of hypercalcemia are proved to have bony metastases. Probably these bony metastases cause stimulation of osteoclasts possibly through prostaglandin or some other substance. Later, these areas of bony destruction may be due to growth of tumor cells. These ideas are purely speculative, according to the

authors. In any event, Mundy and Martin state that “an important point to consider in the pathogenesis of hypercalcemia in patients with metastatic bone disease is the actual cellular mechanisms involved in the metastatic process. Patients do not develop hypercalcemia until the tumor cells metastasize to bone, and bone is not destroyed unless the tumor cells are actually at the metastatic site.” There is some reason to think that tumor cells are attracted to bone which is remodeling in some chemotactic fashion.

The variety of hypercalcemia and the presence of malignancy is that due to hematologic neoplasm such as multiple myeloma. In this situation there may be increased osteoclast activity in some cases, and is simply marked infiltration of tumor cells such as myeloma cells. It is suggested by Mundy and Martin that some of the malignant blood disorders are associated with the secretion of an osteoclastic activity factor. This is unproved but there is circumstantial evidence to suspect that it is correct.

The authors state that osteoclast activating factor known as OAF is present in the supernatant fluid from media obtained from leukocytes which are appropriately stimulated. OAF seems to come from activated lymphocytes. They further stated that the activated lymphocytes seem to require monocytes before they are activated — and perhaps, the intermediary between the monocytes and lymphocytes is prostoglandin-E. The affect of OAF on bony tissue is very similar to parathyroid hormone; both calcium is released from bone and the protein latticework of bone is degraded by OAF. Mundy and Martin also state that calcitonin and phosphate inhibit OAF as does glucocorticoids. The authors feel that OAF tends to act locally rather than systemically and where OAF acts there is an increase in absolute number of osteoclasts and in the biologic activity of the osteoclasts. OAF has been studied chemically and is reported to be a macromolecular protein; it appears that it is not a pure substance but may be a mixture of two or more substances.

The authors state that clinical features of hypercalcemia affect almost all of the organs of the body in a non-specific manner. They produce weakness, gastro-intestinal symptoms as nausea, fatigue, confusion, etc.

In the neuro-muscular system drowsiness and lethargy are very commonplace of excessive cal-

cium. The renal system manifests polyuria and polydipsia. Itching and hypertension are also seen as non-specific symptoms.

Of course, if one is faced with a differential diagnosis of hypercalcemia one should bet on statistics and this would mean that more than likely the patient has hyperparathyroidism or malignancy. The diagnostic studies include: 1) serum calcium, 2) serum phosphate, 3) serum alkaline phosphatase, 4) parathyroid hormone assay, 5) serum 25-hydroxyvitamin D, 5) tubular reabsorption of phosphate, 6) urinary cyclic AMP, 7) skeletal X-ray, 8) bone scanning, and 9) corticosteroid suppression tests.

The course of the hypercalcemia depends on the cause. Treatment is variable. The authors indicate that if the serum calcium is 10.5-12 mg.‰

the patient might be observed carefully and examined at frequent intervals. If the serum calcium is 12-13 mg.‰ the patient needs specific treatment. If the serum calcium is over 13 mg.‰ the patient should be treated aggressively.

The emergency treatment of hypercalcemia includes pushing fluids, using loop diuretics such as furosemide, using intravenous phosphate, using calcitonin and glucocorticoids, and, if necessary, use dialysis. In the chronic treatment of hypercalcemia it is recommended that the patient use oral phosphates, mithramycin, glucocorticoids, indomethacin and aspirin, and diphosphonates.

All in all, this is a fascinating review and is recommended to all practicing physicians since most physicians will more than likely have a puzzling case of hypercalcemia.



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(Submitted by Milton C. John, Jr., M.D., North Bueckle Road, Stuttgart, Arkansas 72160.)

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### FOREWORD

For two years the Program Committee has concentrated on presenting a program so outstanding, so all-inclusive, so inspirational, so fantastic, so sincere that the average thinking citizen whether he or she be a Statesman, a Physician, a Dentist, a Pharmacist, a Minister, an Executive, an Educator, a Student, a Layman, a Nurse or a Housewife will be deeply impressed and stimulated by their efforts. We assure you that the group of participants of today represent the most outstanding leaders in America who are available on October 4, 1962. We believe the following "Plus Program of Nothing But Superlatives" in which many of the great men of America are participating in a Faith Program, that also hopes to inspire the young men of medicine as well as everyday layman to dedicate their lives to service, will be of tremendous benefit to all who attend. The more inspirational part of this program will be recorded on tape and will be offered for broadcast by the Voice of America to the nations of the world in its struggle against Communism. Will you consider this foreword as an invitation to participate in the activities of the day? Your presence will not only encourage the speakers but will help make a lasting impression upon our future physicians in whose hands the health of America will so shortly be entrusted. It will further cement a co-operation between the lay population of our nation and the medical profession that will help insure a more healthy,



a more intelligent, and a more patriotic and inspired nation, that will assure continued leadership through our American way of life. Your presence and help for this project means you want to go further than mere lip service for the ideals and purposes of the occasion.

To conserve time and space, the names of the scores of

ladies and gentlemen cooperating with this program are omitted.

MY FRIENDS! THIS IS IT!

L. H. McDANIEL, M.D.

Chairman, Program Committee  
Tyronza, Ark.



## MEDICINE IN THE NEWS



### THE MONTH IN WASHINGTON

#### DRG Rules Make Debut

Rules to put in place a new payment system considered to be the biggest change in the history of Medicare were published September 1 — just one month before the first hospitals entered the new system.

And on September 19, AMA Executive Vice President James H. Sammons, M.D., told hundreds of physicians from across the nation that “the diagnosis related groups, or DRGs, mark a historically momentous change in the way government pays its share of medical and health care cost.” Dr. Sammons was speaking at the AMA conference on Peer Review Organizations and the Prospective Payment System, heavily attended by state medical and specialty society executives.

Much of the DRG plan, which bases Medicare payments to hospitals on predetermined rates for each of 468 illness or injury categories, has been known to hospitals since it was created by Congress as part of the Social Security Amendments enacted last fall.

Only since the publication of the regulations in the September 1 *Federal Register*, however, have hospitals been able to calculate exactly how much they will be paid for each of the diagnosis related groups (DRGs) and compare it to their current reimbursement for the procedure.

Medicare officials said they do not expect the changes to have any immediate impact on beneficiaries and stressed their belief that hospitals can improve efficiency without downgrading quality of care.

Payments to physicians are not directly affected by the new pricing mechanism. However, hos-

pitals are expected to change their behavior in ways that will have a substantial impact on physicians and Congress has asked for a study of the feasibility of including some physician payments in the plan in later years.

Last year, about two-thirds of the \$50.9 billion Medicare paid for care of its 26 million elderly and 3 million disabled beneficiaries went to hospitals. Previously-enacted changes in Medicare already were expected to keep payments to hospitals about \$1.5 billion below what they would have been otherwise, and the new DRG plan, just as Congress ordered, has been deliberately set to save the same amount as would have occurred under the earlier changes.

Federal officials said they can't estimate how much the program ultimately may save, but they think it could be “billions” if payments are “ratcheted down” hard enough. Without further changes, however, the Medicare hospital trust fund is still expected to be bankrupt by 1990.

About 1,500 of the nation's 7,000 hospitals came under the DRGs on October 1. Another 4,000 will be phased in as they start their new accounting years. The remainder are exempt for the time being.

Developed at Yale University, the DRG system is based on 468 illness categories that take account of factors such as age and sex. The categories are weighted according to the cost involved in treating the condition. For example, payment for a coronary bypass with a cardiac catheterization (DRG 106) would be 10 times the payment for a cataract operation (DRG 39) weighted at 0.510. The Yale system used 467 DRG categories but DRG 468 has been added to the federal plan to

cover situations when two unrelated procedures are performed.

The actual payment to the hospital is derived by multiplying the weight of the DRG times a base payment calculated by Medicare officials. Hospitals will be paid at the predetermined rate no matter what their costs were, although there are some adjustments for unusually high cost or lengthy cases.

If the hospital's costs exceed the payment rate, it must absorb the loss. If costs are below the payment, the hospital can make a profit.

Initially, the actual payment to the hospital will vary by region and by hospital since the base rate is calculated from a blend of the hospital's historical costs, an adjusted average rated for all hospitals in the region, and a national rate. Both an urban and a rural rate have been calculated for each of nine regions and for the nation as a whole.

Base rates will continue to be blended — with regional, and hospital-specific rates making up a decreasing proportion of the blend — for three years. In the fourth year, there will be only the two national rates.

The newly just-published regional rates vary from about \$2,142 for a rural hospital in Louisiana or Texas to about \$3,021 for an urban institution in Illinois or Ohio. National base rates have been set at \$2,837 for urban hospitals and \$2,264 for rural facilities.

Several adjustments have been made in the hospital-specific rates, including one involving payments to certain types of personnel — such as lab technicians and nurse anesthetists — whose services to the hospital in the past may have been billed through a physician rather than through the hospital.

Known as "unbundling," this practice, which Medicare officials say has been spreading, will no longer be permitted. As of October 1, any hospital services provided by non-physicians will be paid only through the hospital. This will apply whether or not the hospital involved is under the DRG program, although an exception will be made for a limited time for nurse anesthetists and for certain facilities such as the Mayo Clinic where unbundling has been a long-standing practice.

The new payment system does not apply to outpatient services, capital expenditures or medical education, all of which for the time being

will still be reimbursed on a cost-related basis. Acquisition of kidneys for transplantation will be reimbursed at cost, but only at certain regional transplant centers.

About 20% of all hospitals will be excluded from the DRG plan either because they are covered through one of four state cost control programs (New Jersey, New York, Maryland, or Massachusetts) which have received Medicare waivers or because they are a type of facility exempted from the law. The latter include psychiatric and rehabilitation facilities and sole community hospitals in remote areas.

The system also provides for some patients where the cost or length of hospital stay greatly exceed what would be expected for the average case in the DRG.

Called "outliers," these are defined as cases where the length of stay exceeds the mean by the lesser of 20 days or 1.94 standard deviations, or where the costs exceed the DRG payment by 1.5 times the DRG payment or \$12,000, whichever is greater. Hospitals will recover about 60% of their costs in excess of the DRG payment for these cases. Nationally, the total proportion of outlier payments will be limited to 6% of total DRG payments for all hospitals.

\* \* \* \*

#### PROs "Scope of Work" Published

Federal officials say Medicare's new prospective pricing plan will save money without reducing the quality of care hospitals give elderly and disabled patients.

To accomplish that, the government will be relying heavily on new Professional Review Organizations (PROs) to keep tabs on hospitals that cheat. In the interim, the task is likely to fall to their predecessors — Professional Standards Review Organizations (PSROs).

A funding problem that threatened the immediate demise of Professional Standards Review Organizations (PSROs) and jeopardized the fledgling Professional Review Organization (PRO) program that is to replace PSROs appeared to be easing in late September.

As Month in Washington went to press, the Senate Appropriations Committee had just approved \$17 million for PSROs in 1984. In addition, Congress was working on a stop-gap measure to fund through November 15 those government agencies, including the Department of Health and Human Services for which no final fiscal 1984



appropriation bill has been adopted. That measure, which was expected to be approved by both houses, would continue funding PSROs during the 45-day period at the current level of \$9 million a year.

The law which created the new diagnosis related groups (DRG) payment system specified that after October 1, 1984, no hospital could receive Medicare payments unless a PRO was reviewing the care it provided Medicare patients. Prior to that time, the hospital must have a contract with a PRO only if a PRO exists in the area.

However, a threat to PSROs and PROs developed when the House Appropriations Health subcommittee, at the behest of Office of Management and Budget Director David Stockman, approved a 1984 funding bill that specifically prohibited funding or contracting with either PSROs or PROs. The language was approved by the full appropriations committee and then by the House. A similar funding measure approved by a Senate subcommittee was silent on the issue but provided no funds for PSROs.

Had either the Senate subcommittee measure or the House appropriations bill gained final approval by both bodies of Congress, the funds for PSROs would have been terminated as of September 30. Had the House language prevailed, the PRO program apparently would have been gutted.

With the funding crisis at least temporarily resolved organizations have turned to regulations published in mid-August to decide whether they are eligible to bid for the 50 PRO contracts to be awarded beginning next spring. Details were provided in draft "scope of work" principles and evaluation criteria made available through an announcement in the August 29 *Federal Register*.

The documents reveal the extent to which PROs will be involved in monitoring hospital payments under the new DRG system. They detail a "cost-benefit" analysis that will be the key to renewal of PROs contracts and, some say, to the fate of physician involvement in the medical review process.

They also lay out a point system on which PRO contract bids will be evaluated. The point system signals the types of organizations that will have the advantage in PRO bidding and the proposed activities that will carry the most weight. Based on a 1000 point total, it emphasizes objectives aimed at controlling hospital admissions (185

points) and quality of care (also 185 points), data collection and analysis (100 points), experience (150 points), and the quality of the personnel who will be managing the PRO and reviewing care (200 points). Physician-sponsored organizations will be awarded an extra 100 points, making it possible for them to accrue 1,100 points.

Several aspects of the point system are expected to draw controversy. Some observers say the 100 point bonus for physician organizations may not be large enough to give much advantage to the many state and local medical societies expected to bid for PRO contracts, but when added to the 150 points awarded for experience, this would give a significant advantage to the existing PSROs. Others say that despite the equal weighting given to quality and admission objectives in the point system, the "scope of work" principles tend to emphasize cost over quality. They note that prospective PROs are required to include only one quality objective compared to at least six that are focused on admissions and costs.

In addition, an "admissions factor" included in the "cost-benefit" analysis, in effect, grades the PRO on how well it is able to hold down or reduce hospital admissions — a feat some doubters think may not be feasible in view of the strong incentives the DRG payments give hospitals to increase admissions.

Health Care Financing Administration staff who developed the documents say their intent is not to give more weight to cost control than quality but that it is easier to measure costs than quality. They are seeking comments on ways to strengthen the quality objectives in the final "scope of work" principles.

The "scope of work" draft requires the PROs to: check (or validate) the data the hospitals give the Medicare intermediaries who assign the proper DRG; review atypical (or "outlier") cases that exceed the normal costs and lengths of stay for a particular diagnosis, and monitor hospital admission patterns.

Other key portions of the draft documents deal with data, subcontractors, and the criteria for determining what constitutes the norms of care against which reviewed cases will be measured. In all three instances the PROs have been left considerable leeway, although subcontracting, as the law mandates, cannot be with a hospital in the area.

HCFA staff tentatively plans to issue requests

for bid proposals for about 30 PRO contracts by the end of November and to award contracts in these PRO areas by May of next year. Requests for proposals for the remaining areas would be issued in late February or early March and contracts awarded by the end of the summer. All PRO would be up and running by October 1, 1984.

\* \* \* \*

#### Extending DRGs to M.D.'s?

Despite reports to the contrary, Medicare officials say they haven't reached any conclusions about extending DRGs to physicians.

That was the message program officials brought to an AMA-sponsored meeting in Washington. But they also warned that if physician DRGs are recommended, payments to the physician might be made as part of a lump sum to the hospital. On the other hand, the payment might be made to the physician who would then pay the hospital, they said.

Despite the seemingly flip-flop attitude at HHS, what is clear is that the Congress has directed the Department to study and advise the Congress as to the "advisability and feasibility" of extending DRGs to physicians' services to hospitalized patients. Some critics charge that the Department has already made up its mind on the issue — that the only question is how, not whether, to extend DRGs to physicians.

HCFA officials at the AMA-sponsored meeting took issue with that view, saying they have not prejudged the data they are just beginning to collect. The question, HCFA Administrator Carolyn Davis, Ph.D., told the group, "is not one of feasibility but of advisability."

A physician DRG "is feasible, given a period of time for us to collect the data," Davis said. "What we don't know yet is whether it's advisable and I know of no way to make that determination except to step back and examine all aspects of physician reimbursement."

In developing a recommendation regarding physician DRGs, Davis said she will be guided in part by an ad hoc group of physicians whom she personally selected and which include several AMA delegates and alternate delegates.

HHS has also set up several studies to help decide whether physicians should be included in DRGs. One by Brandeis University Health Policy Center will help determine whether DRGs are "sensible given the way physicians practice,"

HCFA official Alan Dobson reported.

Another by a Northern Virginia consulting firm, Mandex, Inc., will look at data from New Jersey and South Carolina to see what happens when Part A and Part B data are merged and to determine how many of the physician changes prior to and following hospitalization should be included in the DRG. A third study by the Urban Institute is aimed at the development of a method of determining relative values of procedures in a DRG-type system. A fourth by the Center for Health Economics Research will use North Carolina and New Jersey data to focus on how to package physician services in a DRG.

The latter will be addressing one of the critical questions associated with including physicians in DRGs — who do you pay? As HCFA's Dobson puts it, there are three possibilities: paying hospitals a lump sum to be allocated among the hospital and physicians; paying the physicians a lump sum to be shared with the hospital; or paying "as we do now," with physicians reimbursed under Part B and hospitals under Part A.

One thing that has already been pretty much decided, according to Dobson, is that there will be a lump sum payment. "We're not too inclined to pay separately for each physician," he said.

Sen. David Durenberger (R-MN) also thinks there should be one lump sum payment — preferably to the physician. Durenberger, who chairs the Senate Finance health subcommittee, said that if "an individual physician or a physician organization were willing to accept the entire payment and contract with the hospital for institutional services, then to me that's a better way to go." "If physicians are not willing to accept that responsibility, of course we as payers are going to choose to pay the hospital," he added.

\* \* \* \*

#### Planning Council Future Uncertain

New members of the National Council on Health Planning and Development attending their first meeting in September learned that their service on the federal advisory board may be short because some proposals to continue health planning do not include a role for the Council. (Physicians compromise 25% of the 16 voting Council members.)

The Council's future depends on what approach Congress takes to reauthorize the health planning program, which has operated under a continuing (funding) resolution for the past five



years.

Two bills have been introduced to modify and continue the planning process; another is expected to be offered. One of the proposals would extend the life of the Council; the others would let it expire.

\* \* \* \*

### New ID System For Tracking AIDS

Responding to physician pressure to preserve patient confidentiality, the Centers for Disease Control has devised a new identification and reporting system for AIDS cases.

Physicians in Washington, D.C., New York and several other cities recently stopped reporting names and personal identifiers to the CDC. Instead, city health officials reported only initials, sex and date of birth of patients. Additionally, physicians only partially completed the four-page case reports.

So the CDC has decided it no longer will require names of patients.

Instead, each case report will be identified using a special code. The detailed case reports have been scaled down to one page, requiring information only directly relevant to the AIDS diagnosis.

The new SOUNDEX code on each case report will identify patients by the first letter of the patient's last name and three numbers (each representing a letter in the name). Some letters of the alphabet are represented by the same number; some letters are not represented at all. Thus, it is impossible to reconstruct a name knowing only the SOUNDEX code, CDC officials say. For example, the code "H 452" could be used for the name Holmes. But it could just as well represent the name Hollings.

The revised case report will no longer require that physicians describe non-specific symptoms or signs of AIDS such as fever, weight loss, or enlarged lymph nodes. Nor will physicians be asked to pinpoint the sites of lesions in Kaposi's sarcoma. Additionally, questions used to identify a specific method of diagnosis have been abandoned. For example, the CDC used to accept a diagnosis of pneumocystis pneumonia only when confirmed by biopsy; now, although the physician is instructed that biopsies are the only way to accurately identify the disease, he or she will no longer be asked to identify the method of diagnosis.

Neither system requires that physicians submit

patient Social Security numbers, specific sexual practices, number of sex partners, or other information, the CDC stresses.

The new code could jeopardize long-term follow-up, CDC officials fear. Old and new patient information must be linked; thus, all new documents or lab specimens submitted to CDC must be accurately identified before coding. The CDC expects to spend more time on the telephone with state and local health officials who reported the cases.

Under the system, the records of AIDS patients are locked in CDC offices. Confidential information is also legally safeguarded under the Freedom of Information Act and Privacy Act. Neither the FBI nor CIA have access to this information. However, a CDC notice in the Federal Register says that "records may be disclosed to health departments and other public health or cooperative medical authorities in connection with program evaluations and related collaborative efforts to deal more effectively with diseases."

Confidentiality is an issue with any disease, of course. But in AIDS research, investigators must inquire about intimate details of personal life. In many states, homosexuals can't serve in the Armed Forces, teach children or raise their offspring. In nearly half the country homosexuality is illegal.

"In investigating this disease, we've needed to examine and understand gay life styles. We've had to probe. Every disease raises the problem of confidentiality. But this disease raises it much more," said Assistant Secretary of Health and Human Services Edward N. Brandt, Jr., M.D., at a recent meeting of state and local health officials in Washington, D.C.

Members of the gay community charge that the CDC has distributed names of AIDS patients on three separate occasions.

The CDC defends each instance, saying that it was essential to AIDS research. Two occasions involved scientific studies: the New York Blood Center study showed that, despite suspicions, AIDS was not linked to the hepatitis B vaccine and the Los Angeles Health Department study first identified the connection between sexual contact and AIDS. The third occasion — in which names were released to major city health departments — was necessary to identify any duplication of AIDS cases, says the CDC.

\* \* \* \*

### VA Writes "No-Code" Guidelines

New rules distributed to the nation's 172 VA hospitals no longer prohibit physicians from writing "no-code" or "do not resuscitate" orders on a terminal patient's medical chart.

This change brings VA hospitals into line with many of the country's private and public hospitals, which have permitted such orders during the past several years. Both the American Hospital Association and the President's Commission for the Study of Ethical Problems in Medicine recommend "no-code" policies for hospital staffs.

However, physicians may not "pull the plug" or otherwise hasten a patient's death, according to the guidelines. All other therapies — such as basic nursing care, analgesia, hydration, and oxygen — must be continued, they say.

The rules simply formalize procedures already in effect, say Veterans Administration insiders. The VA's old policy said that "no-code" orders were "inappropriate and do not contribute to high-quality patient care." However, some VA physicians reportedly arranged with nurses and resuscitation teams to allow certain patients to die, or intentionally delayed resuscitation.

"Medical science has made us realize that in some instances the implementation of therapeutic decisions may not cure a patient's disease or disability or reverse a patient's course. In such cases, the physician is seen not as preventing death, but merely deferring the moment of its occurrence. The VA's commitment to high quality care should not be so strong as to overwhelm a dying patient's decision," wrote VA chief medical director Donald L. Custis, M.D., in the seven-page guidelines to hospitals.

The "no-code" policy applies only to terminally-ill patients whose condition is considered to be incurable or untreatable and whose death is considered imminent during the course of the current hospitalization. It also would apply in circumstances where resuscitation would be of no benefit to the patient and would only postpone death for several hours or days.

If legally competent, the patient must discuss his decision with the senior physician. If not competent, the family may offer its consent. Should the family disagree with the "no-code" order, no such order will be written. However, if the patient wants to exclude family members from the decision, he may appoint a disinterested third-party to act in his behalf.

If the physician feels that he cannot in good conscience and sound medical judgment comply with the patient's or family's decision to withhold resuscitation, he should transfer the patient to another physician who can comply, the guidelines say.

Medical decisions regarding the patient's diagnosis should be reached by consensus of the medical treatment team. In larger hospitals, this means that the attending physician, house staff, and consulting physicians such as oncologists and cardiologists will be involved. In small hospitals, the decision should be reached by the attending physician and the hospital's chief of service.

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### 10,000 Comments On "Baby Doe"

State and county medical societies joined together with the national medical community in September in condemnation of the federal government's proposed "Baby Doe" regulations which would send federal investigators into nurseries in cases of suspected neglect.

As the regulation's public comment period finally came to a close, the American Medical Association (AMA), American Academy of Pediatrics (AAP), the American Hospital Association (AHA), and many state and local medical groups sent letters to the Department of Health and Human Services (HHS), attacking the regulations.

More than 70 physicians chose to respond personally to the HHS rule, writing letters urging Washington to stay away from bedside decision-making.

The regulation is an unprecedented attempt to apply federal legislation — under the 1973 Rehabilitation Act — to cases of selective non-treatment of neonates. In the government's first attempt at implementation, the rule was struck down in federal court under challenge by the AAP. Members of the medical community suggested that, if left unchanged, the regulation will again be brought before the courts.

Yet, between medical groups there is little agreement about the major alternative: bioethical review committees. The AMA and American College of Obstetricians and Gynecologists (ACOG) believe that the committees should be voluntary and limited to hospital staff. AAP, the National Association of Children's Hospital and Related Institutions (NACHRI), and the Association of American Medical Colleges say, however, that the review committees should be mandatory.



and should include the outside community.

AMA and ACOG contend that review committees, if established, should be created voluntarily by local hospitals — not mandated by the federal government or hospital accrediting bodies. They should be internal committees that play an educational or advisory role, giving parents and physicians the chance to exchange information when making critical treatment decisions, these groups say.

In contrast, groups such as the AAP and NACHRI favor review boards that are mandatory, hooked up to a hospital's participation in Medicare and Medicaid funding. Review committee members would include not only the hospital staff, but members of the clergy and outside community as well. Although the committee's role would also be advisory, it would assume somewhat broader duties, such as recommending a new hospital policy or reviewing infant care records.

Other medical groups have chosen not to endorse either position, instead adopting models that lie somewhere between either extreme. Still others remain on the periphery, saying they agree "conceptually" with one plan or the other but refusing to endorse specific details of any plan.

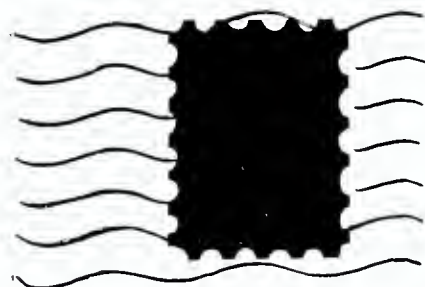
Some hope that a vague position will give them more time to discuss the issue with their members, others expect another chance to comment if the government pursues this plan further.

Already, 20% of the nation's hospitals have formal review mechanisms, 7% have informal review mechanisms, and 19% have plans to establish one or the other, according to a recent AHA survey. Some hospitals are setting up ethics committees specifically for newborn intensive care units.

There is a risk in the alternatives: by offering review committees as an option, the medical community may find itself saddled with both the committees and the more invasive "Baby Doe" regulations. The review committees, if adopted by the government, could be molded into forms scarcely recognizable by their original proponents. Furthermore, the adoption of the review committee concept — if integrated into the "Baby Doe" regulation — could be tougher to fight on legal grounds.

HHS must now sort through more than 10,000 comments, petitions and postcards stacked in tall piles in one Washington office.

\* \* \* \*



## LETTERS TO THE EDITOR

September 27, 1983

Alfred Kahn, M.D.

Editor, Journal of the Arkansas Medical Society

1300 W. 6th Street

Little Rock, AR 72201

Dear Dr. Kahn:

It was called to my attention by a practicing physician in the state of Arkansas that the article, "Penicillin Resistant *N. gonorrhea* in South Arkansas" by Elliot and Ellis, Volume 78, June, 1981, stated: "single dose oral ampicillin is an acceptable alternative method for those patients who are reluctant to accept intramuscular injections or *who are allergic to penicillin.*" The prac-

ticing physician wrote me to ask if this was practical to treat a patient who is truly allergic to penicillin with oral ampicillin. I am writing to inform you that I do not believe that this statement in the *Journal* is correct and certainly can provide multiple references to show that patients who have a true allergy to penicillin, either of the IgE mediated reaction, cutaneous allergic reaction, an IgG mediated response, that these patients cannot be treated with another penicillin group antibiotic of which ampicillin certainly belongs.

The treatment for proven or suspect penicillinase producing *Neisseria gonorrhea* is still spectinomycin, 2 gm. The alternative to treatment of proven gonococcal infections is 3.0 gm amoxicillin or 3.5 gm ampicillin as a single oral dose. This, however, is in patients who do not have historical or previously documented evidence of the penicillin allergy.

Best regards,

Richard F. Jacobs, M.D.

Assistant Professor of Pediatrics

Division of Infectious Disease/Immunology

# keeping up

## Category 1 Continuing Medical Education Programs Available in Arkansas

### **FAMILY PRACTICE UPDATE**

Presented by Ben N. Saltzman, M.D., Department of Family and Community Medicine, UACM, *December 3, 8:00 a.m. to 4:45 p.m.*, Ed. II, Room G/131B, University of Arkansas for Medical Sciences Campus. Seven hours Category I credit. Registration fee \$40.

### **ATLS CONFERENCE**

Presented by Pat Osam, M.D., Arkansas Committee on Trauma of the American College of Surgeons, *December 3-4, 8:00 a.m. to 6:00 p.m.*, Ed. II Building, University of Arkansas for Medical Sciences Campus. 16 hours Category I credit. Registration fee \$375.

### **PARENTERAL NUTRITION SUPPORT OF THE HOSPITALIZED PATIENT**

Presented by Krishnan Sirran, M.D., Department of Surgery, University of Chicago Medical Center, *December 15, 7:00 p.m.*, In-Service Educa-

tion Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### **PRE-MENSTRAL SYNDROME**

Presented by Steve Marks, M.D., *January 16, 6:00 p.m.*, Dining Room, Memorial Hospital, North Little Rock. One hour Category I credit.

### **PRACTICAL ASPECTS OF OFFICE CHEMOTHERAPY**

Presented by Frank J. Panettiere, M.D., FACP, Medical Oncologist, Rogers, Arkansas, *January 17, 7:00 p.m.*, Educational Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### **HYPERTENSION UPDATE**

Sponsored by Baptist Medical Center Department of Medical Education, *February 18, 8:00 a.m. to 12:00 Noon*, Shuffield Auditorium, BMC. Four hours Category I credit. \$10 fee.

### **RECURRING EDUCATION PROGRAMS**

Unless otherwise indicated, programs are for one to two hours Category I Credit.

#### **EL DORADO — AHEC-SOUTH ARKANSAS**

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

#### **FAYETTEVILLE — AHEC-NORTHWEST**

*Medicine Teaching Conference*, first, third and fifth Thursday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

#### **FAYETTEVILLE — VA MEDICAL CENTER**

*Radiology Conference*, first Thursday, 1:00 p.m., Conference Room.

*Pathology Conference*, second Thursday, 3:00 p.m., Conference Room.

*Peer Exchange*, January: "Gastrointestinal Disorders"; February: "Endocrinology".

#### **FORT SMITH — AHEC**

*Cancer Conference*, each Tuesday, 12:00 noon, Fourth Floor Conference Room, Sparks Regional Medical Center.

#### **JONESBORO — AHEC-NORTHEAST**

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.

*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

*Monthly Perinatal Conference*, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Weekly Medical Lecture Series*, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Arkansas Methodist Hospital CME Conference*, last Friday, 7:00 a.m., AMH, Paragould.

#### LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Second Floor Classroom.  
*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Second Floor Classroom.  
*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Polly Thomas Dining Room.  
*Infectious Disease Conference*, second Wednesday, 12:00 noon, Second Floor Classroom.  
*Pediatric Pharmacology Conference*, third Wednesday, 12:00 noon, Second Floor Classroom.  
*Problem Case Conference*, each Thursday, 12:00 noon, Second Floor Classroom.  
*Primary Care Seminar and Case Presentation*, each Friday, 12:00 noon, Second Floor Classroom.

#### LITTLE ROCK — BAPTIST MEDICAL CENTER

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.  
*Emergency Medicine Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.  
*Case of the Month*, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*General Internal Medicine Conference*, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*Renal Conference*, fifth or last Wednesday each month, 12:00 noon to 1:00 p.m., Conference Room #1. (When there are four Wednesdays in the month, conference will be on fourth Wednesday and there will only be one Case of the Month Conference.)  
*Morbidity and Mortality Conference*, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.  
*Surgery Conference*, second, third, fourth and fifth Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.  
*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.  
*Cardiology Conference*, fourth Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.  
*Cardiopulmonary Resuscitation Course*, fourth Thursday, 7:00 p.m. to 1:00 a.m., Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

#### LITTLE ROCK — ST. VINCENT INFIRMARY

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.  
*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.  
*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.  
*Gynecology Conference*, second Tuesday, 5:30 p.m. to 6:30 p.m., St. Vincent Infirmary.  
*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory.  
*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.  
*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.  
*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.

#### LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

*Grand Rounds Series*, each Thursday, 12:00 noon to 1:00 p.m., Child Study Center Auditorium.

#### TEXARKANA — AHEC-SOUTHWEST

*Tumor Conference*, first Wednesday, 7:00 a.m., St. Michael Hospital.  
*Chest Conference*, third Wednesday, 12:30 p.m., St. Michael Hospital.  
*Regional Nephrology Conference*, fourth Wednesday, 7:00 a.m., St. Michael Hospital.



THINGS



TO  
COME

#### April 2-4

*Practical Cardiology for the Family Physician—1984*. The American College of Cardiology; The Heart-Lung Center, St. Luke's Hospital, Phoenix, Arizona; The Florida Academy of Family Physicians; and Florida Heart Institute. Sheraton World, Orlando, Florida.

1 1/2 Category 1 credit hours, The American

College of Cardiology; 1 1/2 Prescribed hours by the American Academy of Family Physicians. Fees: \$240 for members of the American Academy of Family Physicians; \$295 for non-members.

For further information, contact Registration Secretary, Extramural Programs Department, American College of Cardiology, 9111 Old Georgetown Road, Bethesda, Maryland 20814; telephone 301-897-5400, extension 226.

#### April 12-15

*108th Annual Session, Arkansas Medical Society*. "Management of Chronic Disease." Excelsior Hotel and Statehouse Convention Center, Little Rock.



## PERSONAL AND NEWS ITEMS

### FAMILY PHYSICIANS CERTIFIED

Arkansas physicians recently recertified as diplomates of the American Board of Family Practice are Dr. John E. Alexander of Magnolia, Dr. Albert L. Baltz of Pocahontas, Dr. Robert L. Kerr of Mountain Home, Dr. Jim C. Citty of Searcy, and Dr. James A. Capps, Jr., of Fayetteville. Dr. Nita Oglesby of Heber Springs received initial certification by the Board.

### CANCER SOCIETY

Dr. Malcolm L. Hayward of Fayetteville is the newly elected president of the South Washington County Unit of the Arkansas Division of the American Cancer Society. Dr. C. R. Magness, also of Fayetteville, is a member of the Board of Directors.

### DR. CALCOTE MOVES

Dr. Robert A. Calcote of North Little Rock has moved his office to the McCain Professional Building at 3629 McCain Boulevard.

### DR. KOLB FEATURED

The September/October 1983 issue of NEW LIFE featured an article on Dr. Payton Kolb of Little Rock. A photo of Dr. Kolb appeared on the cover of the magazine, which is published by the Arkansas Enterprises for the Blind. He is the consulting psychiatrist for the organization and the article described Dr. Kolb's long-working relationship with the Enterprises for the Blind.

### DR. ALEXANDER IN MAGNOLIA

Dr. John Alexander, Jr., has joined his father, Dr. John Alexander, Sr., at 707 North Washington in Magnolia for the practice of Family Practice.

### DR. WARMACK CHIEF OF STAFF

Dr. Asa M. Warmack of Hope is chief of staff of Medical Park Hospital, a new community health center in Hope.

### DR. ROY IS FELLOW

Dr. F. Hampton Roy of Little Rock was named a Fellow of the International College of Surgeons at its recent meeting in Chicago.

### DR. WILSON SPEAKS

Dr. Joe T. Wilson, Jr., of Jonesboro was the guest speaker at a meeting of the Northeast Arkansas Chapter of the Lupus Foundation of America.

### DR. AQUINO LOCATES

Dr. Al Aquino, an Anesthesiologist, has joined the staff of Ouachita Memorial Hospital in Hot Springs.

### DR. BRASWELL DIRECTOR

Dr. Tommy Braswell of England has been named medical director at England Community Hospital.

### DR. ROAF SPEAKS

Dr. Sterling Roaf of Pine Bluff presented "From Contraception to College: Myths About Sterility" during the Samuel Kountz Lecture Series at the University of Arkansas at Pine Bluff.

### DR. GRAY IN WEST MEMPHIS

Dr. Thomas Gray has joined Dr. Wade Westbrook at the East Arkansas Women's Clinic, 228 Tyler, in West Memphis.

### BREAST CANCER SEMINAR

A free seminar on breast cancer was sponsored by the Helena Hospital and the American Cancer Society. Dr. P. Vasudevan of Helena made opening remarks to attendees.

Dr. Alvah J. Nelson of Little Rock spoke on the use of radium treatment for breast cancer. Drs. Maurice Elovitz and Lance D. Whaley of Helena participated in a panel discussion moderated by Dr. Francis M. Patton, also of Helena.

### DR. CHALFANT MOVES

Dr. Charles Chalfant of Fayetteville has moved his office to 160-A Poplar.

### DR. CARRINGTON LOCATES

Dr. Stephen Carrington has opened an office for Family Practice in the Northside Shopping Center in Mena.

### GLAUCOMA SCREENING

Drs. F. Joseph George and Joseph Stainton of Jonesboro participated in the sixth annual free Glaucoma screening sponsored by the Imboden Lions Club.

### DR. HALL IN LINCOLN

Dr. Benjamin H. Hall has opened the Lincoln Community Clinic and serves the clinic in the mornings. Dr. Hall works in the Adkins Clinic in Prairie Grove each afternoon.

### DR. BEASLEY ELECTED

Dr. Margaret Beasley was elected to the board of directors of the First National Bank in Conway.



**DR. REYES LOCATES**

Dr. Victor Reyes has opened an office at 604 South Pecan in Dermott.

**DR. BARR**

Dr. Marilyn Barr, a native of Fort Smith, has opened an office for Family Practice in the Doctor's Complex of Mercy Hospital of Scott County in Waldron.

**DR. MOORE IN MOUNTAIN HOME**

Dr. Joseph Moore, formerly of Houston, has joined the Abraham Medical Clinic on Highway 201 in Mountain Home for the General Practice of Medicine.

**ORTHOPEDIC MEDICINE SEMINAR**

Drs. James Moore, Peter Heinzelmann, Walter Harris and Tom Coker of Fayetteville were members of the program faculty for an Orthopedic Medicine seminar recently sponsored by Washington Regional Medical Center.

**DR. NICHOLSON LOCATES**

Dr. Peter M. Marvin announces the association of Dr. David Nicholson in the practice of Pulmonary Medicine in North Little Rock.

**SEMINAR ON HEART DISEASE**

Drs. John Baldrige and Allen Duplantis of Jonesboro participated in a free "Heart Day"

program sponsored by St. Bernard's Regional Medical Center and the Craighead County Unit of the American Heart Association. Dr. Baldrige spoke on diabetes and hypertension as coronary risk factors and Dr. Duplantis discussed the effect of cigarette smoking.

**DR. WHITE IN UNION COUNTY**

Dr. Louis White has opened an office at the CABUN Clinic in Strong for the practice of Family Medicine.

**DR. LUTER SPEAKS**

Dr. Dennis Luter of Batesville spoke at a forum on the rising costs of health care sponsored by the White River Area Agency on Aging.

**DR. MERRITT SEEKS MEMBERS**

Dr. James M. Merritt is the newly appointed Chairman for Arkansas of the American Medical Society on Alcoholism. He is interested in increasing the Society's membership in Arkansas.

The American Society is composed of approximately 1200 physicians who are interested in or involved in the treatment of alcoholism and drug addiction.

For more information on the organization, Dr. Merritt may be contacted at Charter Vista Hospital, Post Office Box 1906, Fayetteville 72702; phone 501-521-5731.



were with the University of Kentucky Medical Center in Lexington.

Dr. Knox specializes in Orthopaedic Surgery. His office is located at #19 Medical Plaza in Mountain Home.

**DR. E. J. JONES**

Dr. Jones is a new member of the Independence County Medical Society. He was born in Beloit, Wisconsin.

Dr. Jones received his pre-medical education at the University of Arkansas in Fayetteville. He is a 1979 graduate of the University of Arkansas College of Medicine. His internship and Obstetric and Gynecology residency were with the University Hospital in Little Rock. Dr. Jones also served as an instructor at the University in 1982 and 1983.

Dr. Jones specializes in Obstetrics and Gynecology. His office is located at 409 Virginia Drive in Batesville.

\* \* \* \*



**DR. THOMAS E. KNOX**

Dr. Knox is a new member of the Baxter County Medical Society. He was born in Kansas City, Missouri.

Dr. Knox is a 1973 graduate of the University of Missouri at Columbia and a 1978 graduate of the University of Missouri School of Medicine. His internship and Orthopaedic Surgery residency

The Miller County Medical Society has added four new members to its roll:

**DR. BILLY R. BURNS**

Dr. Burns is a native of Norman, Oklahoma. His military record includes service as an infantry officer from 1966 to 1970 and as a member of the Medical Corps from 1973 to 1983.

He received a Bachelor of Science degree in Zoology from Louisiana Tech University in 1972. His medical degree was received from the Louisiana State University School of Medicine in 1976. Dr. Burns interned at William Beaumont Army Medicine Center and was also in residency training at the Beaumont facility from 1977 until 1979. He was staff pediatrician at Ireland Army Hospital in Fort Knox, Kentucky, from 1979 to 1981. He was with the United States Army Community Hospital at Fort Polk, Louisiana, until July 1983 as chief of the Pediatric Service and Chief of the Department of Medicine. Dr. Burns also served as hospital epidemiologist at Fort Knox and Chairman of the Infection Control Committee at Fort Polk.

Dr. Burns practices Pediatrics with the Collom and Carney Clinic at 4800 Texas Boulevard in Texarkana. He is board certified in his specialty.

**DR. DONALD C. FOURNIER**

Dr. Fournier, a native of Lewiston, Maine, received an A.A. degree from Blinn College, Brenham, Texas, in 1968. He received a B.A. degree from Trinity University, San Antonio, Texas, in 1970. He is a 1974 graduate of the University of Texas Medical Branch at Galveston.

Dr. Fournier served his internship and residency at Wilford Hall United States Air Force Medical Center, Lackland Air Force Base, Texas.

While in the Air Force, Dr. Fournier served as a member of the Allergy Immunology staff and Education Coordinator of the Allergy Program at Wilford Hall Medical Center. He also served at Scott Air Force Base, Illinois, as Chief of the Allergy Immunology Service, Chief of the Internal Medicine Service, and as chairman of Infection Control. In addition to his positions at Wilford Hall and Scott, he held teaching appointments at the University of Texas Health Sciences Center in San Antonio and at St. Louis University. He completed his military obligation in June 1983.

Dr. Fournier is certified in his specialty of Internal Medicine. He is a member of the American College of Allergists. He is associated with the

Collom and Carney Clinic at 4800 Texas Boulevard in Texarkana.

**DR. SONDRA L. KHALIL**

Dr. Khalil was born in Fort Worth, Texas. She received a Bachelor of Science in Biology in 1975 from the University of Houston.

Dr. Khalil, a 1978 graduate of the University of Texas Medical School at Houston, served her internship and residency with the Department of Internal Medicine at the University.

She was an instructor and assistant professor in the Department of Internal Medicine, Division of General Medicine, at the Medical School in Houston. She also held the positions of director of Internal Medicine Clinic and the Assistant Dean of Student Affairs.

Dr. Khalil was certified by the American Board of Internal Medicine in 1981. She is a member of the Texas Diabetes and Endocrine Association.

Dr. Khalil specializes in Internal Medicine. She is associated with Collom and Carney Clinic in Texarkana. Her mailing address is Post Office Box 1409, Texarkana 75504.

**DR. ROGER C. OSBORN, JR.**

Dr. Osborn was born in Austin, Texas. He received a Bachelor of Science in Electrical Engineering from the University of Texas at Austin in 1974. He was graduated from the University of Texas Southwestern Medical School in Dallas in 1978.

His internship and residency in Medicine were with the University of Alabama Hospitals and Clinics in Birmingham from 1978 to 1981. From 1981 to 1983, Dr. Osborn served as a Cardiology Fellow and held an appointment as Associate in Medicine at the same institution.

Dr. Osborn received his Board certification in Internal Medicine in 1981.

Dr. Osborn specializes in Cardiology and Internal Medicine. He is associated with Collom and Carney Clinic in Texarkana. The mailing address is Post Office Box 1409.

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**DR. EDWIN C. GLASSELL**

Dr. Glassell, a native of Shreveport, Louisiana, is a new member of the Sebastian County Medical Society.

He received a Bachelor of Science degree from Centenary College in 1972 and a Master of Science degree from Oklahoma University in 1975. Dr. Glassell is a 1979 graduate of the Louisiana State



## NEW MEMBERS

University School of Medicine. His internship and residency were with the same institution.

Dr. Glassell is an Internist and has joined Holt Krock Clinic at 1500 Dodson in Fort Smith.

### DR. MARTHA BUSH

Dr. Bush has joined the Washington County Medical Society. She is a native of Crossett, Arkansas.

She was granted a Bachelor of Science in Biology by the University of Arkansas in 1976. Dr. Bush received her medical degree from the University of Arkansas College of Medicine in 1980. From 1981 to 1983, she trained in Pediatrics at

the Arkansas Children's Hospital.

Dr. Bush, a Pediatrician, has joined the Springdale Pediatric Clinic at 2706 American in Springdale.

\* \* \* \*

### Resident Members

#### DR. OWEN B. GILMORE

Dr. Gilmore, a 1982 graduate of the University of Colorado School of Medicine in Denver, has joined the Sebastian County Medical Society as a resident member. He is in Family Practice residency training with the Area Health Education Center in Fort Smith.



## OBITUARY

### DR. CARL H. ADAMS

Dr. Adams of Little Rock died October 11, 1983. He was born January 30, 1918, in Paragould.

He attended Arkansas A&M College at Monticello from 1934 to 1936. He was a 1940 graduate of the University of Arkansas College of Medicine. After an internship with University Hospital in Little Rock, Dr. Adams remained at the University Hospital for a year of training in Obstetrics and Gynecology.

Dr. Adams served with the United States Army from 1943 to 1946. After returning from military service, he received further training in Obstetrics and Gynecology at the University Hospital. He began practicing Obstetrics and Gynecology in 1947 in Pine Bluff. Dr. Adams served as Chief of Obstetric Services at Davis Hospital.

Dr. Adams served in the Army again during 1951 to 1953. He then returned to Pine Bluff until 1961. From 1961 to 1974, Dr. Adams practiced General Medicine in Carthage. He was then associated with the State Hospital in Benton for one year. In 1976 he became Medical Director for the Arkansas Department of Corrections. Dr. Adams retired in 1980.

He was a member of the Carthage Missionary Baptist Church and the Sheridan Masonic Lodge 260.

Dr. Adams is survived by his wife, Mrs. Nell

Pitts Glover Adams, one daughter, one son and one stepson.



## RESOLUTIONS



### DR. CARL H. ADAMS

WHEREAS, the members of the Jefferson County Medical Society are deeply saddened by the recent death of their esteemed colleague, Carl H. Adams, M.D., and

WHEREAS, Dr. Adams has been held in great respect by his fellow physicians for his devotion to the profession; and

WHEREAS, his devotion to the betterment of the health of his countless patients was recorded by their reverence of him;

BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted and made a part of the permanent record of this Society; and

THAT, a copy of the resolution be sent to Dr. Adams' family as a token of our sincere appreciation of his life and leadership; and

THAT, a copy be sent to the Journal of the Arkansas Medical Society for publication.

/s/ R. A. Irwin, M.D., President

Jefferson County Medical Society

\* \* \* \*

### DR. CARL R. PARKERSON

WHEREAS, the members of the Garland Coun-

## RESOLUTIONS

ty Medical Society note with sincere and deep regret the death of one of its beloved members; and

WHEREAS, he has been a valuable member of the Society for many years; and

WHEREAS, he has served as the Chief of Staff at Ouachita Memorial Hospital; and

WHEREAS, he was held in high regard as a learned, capable and conscientious physician.

BE IT RESOLVED:

THAT, the Garland County Medical Society pay tribute to our recently departed member, Dr. Carl R. Parkerson; and

THAT, a copy of this tribute be sent to his wife, Rita S. Parkerson, as an expression of our sincere sympathy, and made a part of the minutes of the Society; and

THAT, a copy be sent to the Journal of the Arkansas Medical Society for publication.

/s/ Robert F. McCrary, M.D., President

/s/ Robert B. Clark, M.D., Secretary

Garland County Medical Society

\* \* \* \*

### DR. WILLIAM A. SNODGRASS

WHEREAS, the membership of the Pulaski County Medical Society notes with sincere sorrow the recent death of a long-time colleague, William Anderson Snodgrass, M.D., and

WHEREAS, Dr. Snodgrass distinguished himself as an outstanding leader of organized medicine for many years, serving in countless areas of service to the Society and

WHEREAS, he was a past president of the Arkansas Medical Society and for many years was a member of the Arkansas State Medical Board.

BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted and made a part of the permanent archives of the Society, and

THAT, a copy of this resolution be sent to Dr. Snodgrass' family as an expression of our sincere sympathy; and

THAT, a copy be forwarded to the Journal of the Arkansas Medical Society for publication.

ADOPTED:

Executive Committee

Pulaski County Medical Society

/s/ Kelsy J. Caplinger, M.D., President

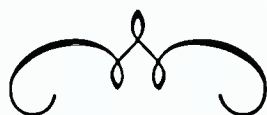




# **ARKANSAS MEDICAL SOCIETY**

## **MEMBERSHIP ROSTER**

### **December 1, 1983**



**HEADQUARTERS OFFICE:**  
**214 NORTH 12TH STREET**  
**POST OFFICE BOX 1208**  
**FORT SMITH, ARKANSAS 72902**  
**TELEPHONE: 501 782-8218**

MEMBERSHIP ROSTER OF THE ARKANSAS MEDICAL SOCIETY 1983-1984

Type of Practice	Member's Name	Address	Telephone Number
ARKANSAS COUNTY			
FP	Burleson, Stan W	Post Office Box 369, DeWitt 72042..	946-1326
#	Cross, Joseph E	DeWitt	
FP	Daniel, Noble B., III	Route 1, Box 21-D, Stuttgart 72160.	673-7211
FP	Guyer, G L	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Hestr, John M.	Post Office Drawer 512, DeWitt 72042.	946-3637
FP	John, Milton C., Jr.	Route 1, Box 21-D, Stuttgart 72160.	673-7211
FP	Malloy, Mark J	Route 1, Box 21-D, Stuttgart 72160.	673-7211
GP	McCracken, Elbert A.	509 South Main, Stuttgart 72160	673-8571
GS	Millar, Paul H., Jr	Route 1, Box 21-D, Stuttgart 72160.	673-7211
FP	Morgan, Jerry D	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Northcutt, Carl E	Route 1, Box 21-D, Stuttgart 72160.	673-7211
FP	Pritchard, Jack L	1022 South Main, Stuttgart 72160.	673-2331
FP	Rasco, Charles W., Jr	111 South Jackson, DeWitt 72042	946-3156
FP	Speer, Hoy B., Jr	1708 North Buerkle, Stuttgart 72160.	673-2586
R	Speer, Marolyn N	Rt 1, Box 21-C, Stuttgart 72160	673-3511
ASHLEY COUNTY			
GP	Cothorn, William R	Post Office Box 577, Crossett 71635	364-6111
	Edwards, Lawrence E	Shalimar, Florida	
GP	Garcia, Luis F.	Post Office Box 792, Crossett 71635	364-4181
FP	Gresham, Edward A	310 North Alabama, Crossett 71635.	364-9111
GP	Hicks, Charles E	Post Office Box 232, Hamburg 71646	853-8271
IM	Karottukunnel, Abraham	210 East Lincoln, Hamburg 71646	853-9828
GP	Rankin, J. D.	Post Office Box 232, Hamburg 71646	853-8271
GP	Ripley, C E	317 North Alabama, Crossett 71635.	364-5113
GP	Salb, R L	113 Pine, Crossett 71635	364-2138
FP	Thompson, Barry V	103 East Third, Crossett 71635	364-5746
FP	Toon, D L	315 North Alabama, Crossett 71635.	364-8062
BAXTER COUNTY			
GYN	Baker, Robert L	#10 Medical Plaza, Mountain Home 72653	425-2552
GP	Beard, Arthur L	126 West Sixth, Mountain Home 72653	425-3131
PS	Beckman, James S., Jr	3000 Market, Suite D, Fayetteville 72701	443-7771
GP	Burnett, Richard L	Post Office Box 301, Mountain Home 72653.	425-3030
IM	Cheney, Maxwell G	Post Office Box 725, Mountain Home 72653.	425-3125
NEP	Chock, Daniel P	Post Office Box 786, Mountain Home 72653.	425-5535
PD	Chock, Helga E	Post Office Box 786, Mountain Home 72653.	425-5535
AN	Clarke, James S	449 West North, Mountain Home 72653	425-9484
RD	DeLany, Clarence L	Post Office Box 198, West Plains, Missouri 65775 (Res.)	417-256-7898
PTH	Douglas, Donald S	#14 Medical Plaza, Mountain Home 72653	425-8411
FP	Dunbar, James C	Post Office Box 410, Mountain Home 72653.	425-2020
PTH	Dykstra, Peter C	Route 6, Box 372, Mountain Home 72653 (Res.)	425-8411
R	Fontenot, Edwin, Jr	Bull Shoals Hospital, Bull Shoals 72619	445-4292
GS	Ford, William H	Post Office Box 433, Mountain Home 72653.	425-9120
GP	Gotaas, Bernice E	Post Office Box 44, Bull Shoals 72619.	445-4755
GP	Guenther, John F.	126 West Sixth, Mountain Home 72653	425-3131
D	Hardin, Philip R	Post Office Box 142, Mountain Home 72653.	425-9737
GS	Hawkins, Michael L	#3 Medical Plaza, Mountain Home 72653	425-6988
GP	Kelley, Lawrence A	Post Office Box 299, Bull Shoals 72619	445-4292
FP	Kerr, Robert L	Post Office Box 706, Mountain Home 72653.	425-6971
ORS	Knox, Thomas E	#19 Medical Plaza, Mountain Home 72653	425-9293
GE	MackKercher, Peter A	Post Office Box 634, Mountain Home 72653	425-4967
OPH	Massey, J Y	Post Office Box H, Mountain Home 72653.	425-6026
OPH	McGaughey, Allen S	Post Office Box H, Mountain Home 72653.	425-6026
PTH	Peterson, Hubert C	620 North Willow, Harrison 72601	741-6141
R	Roberts, David H	Seventh and Shiras, Mountain Home 72653	425-6322
OPH	Sneed, John W	Post Office Box H, Mountain Home 72653.	425-6026
GS	Stahl, Ray E	Post Office Box 433, Mountain Home 72653.	425-9120
ORS	Sward, David T.	19 Medical Plaza, Mountain Home 72653	425-9293
R	Tulks, Joe M.	Post Office Box 889, Mountain Home 72653.	425-9242
FP	Wilbur, Paul F	Post Office Box 706, Mountain Home 72653.	425-6971
FP	Wilson, Jack C	Post Office Box 725, Mountain Home 72653.	425-3125
R	Wilson, M. Carolyn	Post Office Box 373, Mountain Home 72653.	425-2398
BENTON COUNTY			
OBG	Addington, Alfred R	1116 Poplar Place, Rogers 72756.	636-0300
AN	Adrian, James A	Post Office Box 1599, Rogers 72756	636-3840
PD	Allen, L. Barry	1114 Poplar Place, Rogers 72756	636-9234
FP	Arkins, James H	Post Office Box 669, Bentonville 72712	273-9056
P	Ball, Eugene H	1406 West Walnut, Rogers 72756	636-8307
FP	Baltes, Bernard J	Post Office Box 369, Gravette 72736	787-5221
GS	Bledsoe, James H.	#6 Halsted Circle, Rogers 72756	636-5411
OPH	Boozman, Fay W., III	Post Office Box 1353, Rogers 72756	636-7506
D	Carter, Vernon H	1301 West Persimmon, Rogers 72756	636-0599
AN	Christman, Daniel E	Post Office Box 1599, Rogers 72756	636-3840
GP	Clower, John D	Post Office Box 737, Rogers 72756	636-2711
FP	Cohagan, Donald L	408 North Walton, Bentonville 72712	273-5543
RD	Compton, Neil E	Post Office Box 209, Bentonville 72712 (Res.)	273-5123
GS	Costaldi, Mario E	#6 Halsted Circle, Rogers 72756	636-5411
RD	Dean, Lee A.	Route 4, Box 154, Rogers 72756 (Res.)	636-3694
PTH	Denman, David A	Rogers Memorial Hospital, Rogers 72756	636-0200
IM	Donnell, Robert W	Post Office Box 737, Rogers 72756	636-2711
OBG	Elkins, James P	1116 Poplar Place, Rogers 72756	636-0300
FP	Floyd, Louis C.	Route 8, Box 100, Bentonville 72712	855-3711
FP	Garrett, David C., III	Post Office Box 737, Rogers 72756	636-2711
GP	Garrett, John L.	Post Office Box 369, Gravette 72736	787-5221
FP	Hall, Billy V.	Post Office Box 369, Gravette 72736	787-5221
PD	Harmon, Harry M	1114 Poplar Place, Rogers 72756	636-9234
ORS	Henderson, Oscar L	101 North 37th, Rogers 72756.	636-9607
FP	Hitt, Jerry L.	Post Office Box 737, Rogers 72756	636-2711
OPH	Hof, C William	Post Office Box 1353, Rogers 72756	636-7506
OPH	Hoffman, Carl E	#1 Halsted Circle, Rogers 72756.	636-6020
FP	Holder, Robert E	Post Office Box 669, Bentonville 72712	273-9056
AN	Horner, Glennon A	Post Office Box 1599, Rogers 72756	636-3840
GP	Howard, Willard H., Jr	Post Office Box 739, Bentonville 72712	273-5551
FP	Hull, Robert R	1040 West Walnut, Rogers 72756	636-2711
FP	Huskins, John A.	Post Office Box 737, Rogers 72756	636-2711
RD	Jennings, W E	817 Summit Drive, Rogers 72756 (Res.)	636-3122
ORS	Kendrick, Carl M.	101 North 37th, Rogers 72756.	636-9607
R	Knapp, James R.	Rogers Memorial Hospital, Rogers 72756	636-0200, Ext. 764
PD	Knight, Richard R	1114 Poplar Place, Rogers 72756	636-9234
FP	Martin, Albert E., Jr	910 Northwest Seventh, Bentonville 72712	273-9400



Type of Practice	Member's Name	Address	Telephone Number
FP	McCollum, Edward N	Post Office Box 127, Decatur 72722	752-3233
**FP	McCollum, William E	Post Office Box 127, Decatur 72722	752-3233
GE	McKnight, William D	Post Office Box 1567, Rogers 72756	636-3627
IM	Miles, R W	Post Office Box 1000, Rogers 72756	636-6551
P	Mizelle, Joseph W	1406 West Walnut, Rogers 72756	636-8307
FP	Mullins, Neil D	Post Office Box 296, Bentonville 72712	273-9400
FP	Neaville, Gary A	Post Office Box 737, Rogers 72756	636-2711
ONC	Panettiere, Frank J	#6 Halsted Circle, Rogers 72756	636-5411
GS	Pearson, Richard N	#6 Halsted Circle, Rogers 72756	636-5411
RD	Pickens, James L	2212 West Walnut, Rogers 72756 (Res )	636-2862
R	Platt, Michael R	Jackson and 4th Street, Gravette 72736	787-5291
OTO	Reese, Michael C	1110 West Elm, Rogers 72756	636-0110
RD	Robbins, Robert H	21 Little Drive, Bella Vista 72714 (Res )	855-2778
FP	Rollow, John A	408 Northwest "I", Bentonville 72712	273-2497
IM	Rolniak, Wallace A	Post Office Box 1000, Rogers 72756	636-6551
GP	Ronald, Douglas C	Route 8, Box 100, Bentonville 72712	855-3711
FP	Steadman, Hunter M	Post Office Box 669, Bentonville 72712	855-1105
FP	Stone, W Tex	1219 West Walnut, Rogers 72756	636-6881
R	Swaim, Terry J	12th and Walnut, Rogers 72756	636-0200
IM	Swindell, William G	Post Office Box 1000, Rogers 72756	636-6551
U	Turley, Jan T	#2 Halsted Circle, Rogers 72756	636-9669
IM	Waldon, G Bruce	Post Office Box 1000, Rogers 72756	636-6551
GP	Warren, Grier D	Post Office Box 737, Rogers 72756	636-2711
FP	Weaver, Donald D	Post Office Box 869, Bentonville 72712	273-9400
IM	Wright, Larry D	Post Office Box 1000, Rogers 72756	636-6551

BOONE COUNTY

GS	Bell, Thomas E	Post Office Box 1116, Harrison 72601	741-6418
R	Bennett, Joe D	Post Office Box 969, Harrison 72601	741-9667
OTO	Chambers, Carlton L	Bower at Pine, Harrison 72601	741-7684
PD	Chambers, Sue R	Bower at Pine, Harrison 72601	741-7684
FP	Daniel, Charles D	Post Office Box E, Marshall 72650	448-3327
U	Ferguson, Noel F	707 North Vine, Harrison 72601	741-9481
RD	Fowler, Ross E	1203 Circle Drive, Harrison 72601 (Res )	741-5504
IM	Garland, William J, Jr	Post Office Box 1077, Harrison 72601	741-3459
GS	Gladden, Jean C	Post Office Box 1118, Harrison 72601	741-8275
GS	Hoberock, Thomas R	Post Office Box 1116, Harrison 72601	741-7411
RD	Hudson, William A	Hudsonakers, Jasper 72641 (Res )	446-2948
RD	Jackson, Ulys	424 South Willow, Harrison 72601 (Res )	743-1134
GP	Kirby, Henry V	825 North Spring, Harrison 72601	741-5022
IM	Klepper, Charles R	707 North Vine, Harrison 72601	741-3592
FP	Langston, Robert H	520 North Spring, Harrison 72601	741-8286
OPH	Laule, Alice R	715 West Sherman, Harrison 72601	741-1910
ORS	Ledbetter, Charles A	224 West Erie, Harrison 72601	741-8289
OBG	Mahoney, Paul L, Jr	Post Office Box 1241, Harrison 72601	741-7334
FP	Maris, Mahlon O	Post Office Box 1597, Harrison 72601	741-8247
FP	McCoy, Orville B	707 North Vine, Harrison 72601	741-3592
FP	Reese, Ronald R	Post Office Box 458, Harrison 72601	741-2299
#	Robinson, G Allen	Harrison	
R	Rozeboom, Victor A	Post Office Box 1134, Harrison 72601	741-1166
GP	Scroggins, Sam J	1002 North Spring, Harrison 72601	741-6373
OBG	Simpson, Thomas J	702 North Spring, Harrison 72601	741-2441
IM	Smith, H Van	Post Office Box 1077, Harrison 72601	741-3459
ORS	Vowell, Don R	224 West Erie, Harrison 72601	741-8289
FP	Wallace, Oliver	Post Office Drawer AA, Green Forest 72638	438-5218
GS	Williams, Rhys A	Post Office Box 1118, Harrison 72601	741-8275
FP	Wilson, Joe B	520 North Spring, Harrison 72601	741-8286

BRADLEY COUNTY

GP	Chambers, F David	219 East Central, Warren 71671	226-5873
#	Crow, Merl T, Jr	Warren	
FP	Marsh, James W	302 North Main, Warren 71671	226-2112
FP	Pennington, Kerry F	205 East Church, Warren 71671	226-5811
FP	Whaley, William C, Jr	205 East Church, Warren 71671	226-5811
FP	Wynne, George F	113 West Cypress, Warren 71671	226-2844

CHICOT COUNTY

GP	Berry, Danny T	Post Office Box 788, Lake Village 71653	265-5343
#	Burge, John H	Lake Village	
GS	Burge, John P	Post Office Box 788, Lake Village 71653	265-5343
GP	Russell, John R	Lake Village Clinic, Lake Village 71653	265-5343
IM	Sniar, P	2420 North Highway 65, Eudora 71640	355-4496
GP	Smith, Major E	Post Office Box 310, Dermott 71638	538-5717
IM	Talbot, Allen G	Post Office Box 788, Lake Village 71653	265-5343
GP	Thomas, H W	Post Office Box 250, Dermott 71638	538-5255
R	Tuangsithanon, T	Post Office Box 208, Lake Village 71653	265-5351
GP	Tvedten, Tom	Post Office Box 512A, Lake Village 71653	265-3813
GP	Vichugsananon, Niponth	Post Office Box 385, Lake Village 71653	265-5374
GP	Weaver, William J	Post Office Box O, Eudora 71640	355-4376
GP	Wilson, Thomas C	Post Office Box J, Dermott 71638	538-5253

CLARK COUNTY

RD	Anderson, P R	Post Office Box 758, Arkadelphia 71923 (Res )	246-4464
FP	Balay, John W	416 Main, Arkadelphia 71923	246-2431
GP	Blackmon, James T	1008 Pine, Arkadelphia 71923	246-6734
RD	Clark, Charles G	130 North 7th, Arkadelphia 71923	246-4051
RD	Kennedy, J W	106 Evonshire, Arkadelphia 71923 (Res.)	246-8105
FP	Luck, H D	3004 West Pine, Arkadelphia 71923	246-2471
P	Parsons, V Earl	117 North 11th, Arkadelphia 71923	246-8364
GP	Ritter, N R	3004 West Pine, Arkadelphia 71923	246-2471
FP	Russell, James D	3004 West Pine, Arkadelphia 71923	246-2475
RD	Toombs, Vernon L	101 Charlotte, Gurdon 71743 (Res )	353-2935

CLEBURNE COUNTY

GP	Ashabranner, Wesley J	Post Office Box 1111, Heber Springs 72543	362-2414
OPH	Baldrige, Max	Post Office Box 431, Heber Springs 72543	362-3479
RD	Barnett, James C	1828 West Front, Heber Springs 72543 (Res.)	362-2786
GP	Barnett, Michael E	4th and Spring, Heber Springs 72543	362-3143
OPH	Beasley, Harold	Post Office Box 272, Heber Springs 72543	362-3479
FP	Eans, Thomas L	1709 West Main, Heber Springs 72543	362-8256
FP	Hinkle, Richard A	Post Office Box 128, Quitman 72131	589-2600
FP	Oglesby, Nita B	421 South 7th, Heber Springs 72543	362-8205
GP	Poff, Joseph H	Post Office Box 1111, Heber Springs 72543	362-2414
FP	Poff, Nathan L	Post Office Box 1111, Heber Springs 72543	362-2414

Type of Practice	Member's Name	Address	Telephone Number
R	Scruggs, Joe B.	Post Office Box 510, Heber Springs 72543	362-3121
IM	Sharp, Jack V.	Post Office Box 70, Heber Springs 72543	362-3316
<b>COLUMBIA COUNTY</b>			
FP	Alexander, John E.	707 North Washington, Magnolia 71753	234-2288
PD	Baldwin, Ronald L.	1411 North Jackson, Magnolia 71753	234-7912
FP	Farmer, John M.	104 East Columbia, Magnolia 71753	234-2230
FP	Griffin, Rodney L.	123 North Jackson, Magnolia 71753	234-3040
R	Hunter, Robert W.	Post Office Box 1883, Magnolia 71753	234-6370
FP	Kelley, Charles W.	1327 North Washington, Magnolia 71753	234-5544
GS	McMahan, H. Scott	Post Office Box 647, Magnolia 71753	234-3340
FP	Pullig, Thomas A.	805 North Jackson, Magnolia 71753	234-8570
FP	Roberts, Franklin D.	110 West North, Magnolia 71753	234-8430
GP	Ruff, John L.	104 Hospital Road, Magnolia 71753	234-2144
#	Rushton, Joe F.	Magnolia	
GP	Strange, Vance M.	Post Office Box 67, Stamps 71860	533-2438
GP	Walker, Jack T.	123 North Jackson, Magnolia 71753	234-3040
FP	Weber, Charles H.	110 West North, Magnolia 71753	234-4411
<b>CONWAY COUNTY</b>			
GP	Hickey, Thomas H.	Post Office Box 230, Morrilton 72110	354-4623
GP	Hyatt, Benjamin C.	Post Office Box 265, Perryville 72126	889-5141
FP	Lipsmeyer, Keith M.	Post Office Box 677, Morrilton 72110	354-2456
GP	Owens, Gastor B.	Route 3, Box 2, Morrilton 72110	354-4505
PTH	Rozzell, Allen R.	601 South Moose, Morrilton 72110	354-1225
FP	Wells, Charles F.	601 South Moose, Morrilton 72110	354-2123
<b>CRAIGHEAD-POINSETT COUNTY</b>			
D	Aiston, Herman D.	816 Cobb Street, Jonesboro 72401	932-4570
R	Aston, J. Kenneth	3024 Stadium Road, Jonesboro 72401	972-0045
IM	Baldridge, John A.	505 East Matthews, Jonesboro 72401	932-1198
P	Barnett, James, Jr.	2920 McClellan, Jonesboro 72401	972-4032
GYN	Basinger, James W.	Post Office Box 3075, Jonesboro 72403	972-5555
OBG	Berry, Donald M.	Post Office Box 1478, Jonesboro 72403	935-3990
OBG	Blair, Richard A.	Post Office Box 1478, Jonesboro 72403	935-3990
FP	Blanchard, S. Michael	410 East Jackson, Jonesboro 72401	933-0445
P	Blaylock, Jerry D.	901 South Church, Jonesboro 72401	935-0360
R	Bodeker, Larry J.	Post Office Box 1030, Jonesboro 72403	932-0639
U	Bogaev, Leonard R.	303 East Matthews, Jonesboro 72401	932-2926
R	Buckner, John H.	Post Office Box 1030, Jonesboro 72403	972-4196
IM	Burns, Richard G., Sr.	505 East Matthews, Jonesboro 72401	932-1198
IM	Clopton, Owen H., Jr.	505 East Matthews, Jonesboro 72401	932-1198
HEM	Cohen, Robert S.	Post Office Box 865, Jonesboro 72403	932-7379
FP	Crawley, Michael E.	3100 Apache Drive, Jonesboro 72401	972-1720
ORS	Dickson, Glenn E.	505 East Matthews, Jonesboro 72401	932-1820
GS	Drake, James E.	416 East Washington, Jonesboro 72401	932-0416
CD	Duplantis, Allen J., Jr.	303 East Matthews, Jonesboro, 72401	935-6682
OTO	Eddington, William R.	505 East Matthews, Jonesboro 72401	935-8132
GS	Faris, John C.	907 Union, Jonesboro 72401	935-8470
FP	Forestiere, A. J.	Post Office Box 106, Harrisburg 72432	578-5443
R	Garner, William L.	Post Office Box 1030, Jonesboro 72403	932-0639
OPH	George, F. Joseph	416 East Washington, Jonesboro 72401	932-0485
FP	Golden, Stephen C.	403 East Matthews, Jonesboro 72401	935-5529
OTO	Gossett, Clarence E.	505 East Matthews, Jonesboro 72401	935-8132
R	Green, W. Robert	Post Office Box 1030, Jonesboro 72403	932-0526
IM	Guinn, Donald R.	505 East Matthews, Jonesboro 72401	932-1198
P	Guthrie, Alastair N.	2701 South Caraway Road, Jonesboro 72401	932-0692
IM	Hall, Ray H., Jr.	311 East Matthews, Jonesboro 72401	935-4150
RD	Harper, Thomas P.	108 Reeves, Monette 72447 (Res.)	486-5771
GE	Hightower, Michael D.	311 East Matthews, Jonesboro 72401	935-4150
GP	Hogue, Ernest L.	920 Union, Jonesboro 72401	932-3022
	James, Frank M.	Fort Supply, Oklahoma	
AN	Johnson, Larry H.	806 South Church, Jonesboro 72401	932-4211
PD	Johnson, Roehl W.	505 East Matthews, Jonesboro 72401	935-6012
	Jones, R. J.	San Francisco, California	
GE	Jordan, Harry J.	311 East Matthews, Jonesboro 72401	935-4150
GS	Keisker, H. W.	505 East Matthews, Jonesboro 72401	932-4581
PD	Kemp, Charles E.	505 East Matthews, Jonesboro 72401	935-6012
PTH	Kroe, Donald J.	411 East Matthews, Jonesboro 72401	932-7430
U	Lassonde, Robert G.	416 East Washington, Jonesboro 72401	932-8674
FP	Lawrence, Robert O.	417 East Matthews, Jonesboro 72401	972-0550
RD	Ledbetter, Joseph W.	626 West Washington, Jonesboro 72401 (Res.)	932-4197
OBG	Lunde, Stephen P.	Post Office Box 1478, Jonesboro 72403	935-3990
NEP	Mackey, Michael	311 East Matthews, Jonesboro 72401	935-4150
ORS	Mahon, Larry E.	910 South Main, Jonesboro 72401	935-9123
OPH	McKee, Bobby E.	505 East Matthews, Jonesboro 72401	935-6396
PTH	McLendon, Richard E.	411 East Matthews, Jonesboro 72401	932-7430
AN	Mitchell, George E.	806 South Church, Jonesboro 72401	932-4211
FP	Modelevsky, A. C.	Post Office Box 1427, Jonesboro 72403	932-0980
EM	Neff, Michael D.	224 East Matthews, Jonesboro 72401	972-4288
RD	Peeler, Malcolm O.	2801 Greenbriar, Jonesboro 72401 (Res.)	935-5814
FP	Plunk, Hermie G.	5005 East Nettleton, Jonesboro 72401	932-1181
FP	Poole, Grover D.	Post Office Box 10, Jonesboro 72403	932-2634
P	Price, Edwin F.	Post Office Box 5033, Jonesboro 72403	972-0290
PD	Rainwater, W. T.	505 East Matthews, Jonesboro 72401	935-6012
EM	Raney, Bascom P.	1415 Metzler Lane, Jonesboro 72401 (Res.)	935-8184
OBG	Reid, E. Paul	3100 Apache Drive, Jonesboro 72401	972-6740
FP	Robbins, Robert A.	Post Office Box 8, Lake City 72437	237-4396
D	Robinette, J. M.	801 Osler Drive, Jonesboro 72401	932-2423
P	Rogers, James F.	406 East Washington, Jonesboro 72401	935-4755
GS	Rusher, Albert H.	211 East Matthews, Jonesboro 72401	935-1242
CDS	Sanders, James W.	826 South Main, Jonesboro 72401	932-4875
NS	Sapiro, Gary S.	416 East Washington, Jonesboro 72401	972-8032
ORS	Schrantz, James L.	830 Cobb, Jonesboro 72401	972-8040
U	Scriber, Ladd J.	303 East Matthews, Jonesboro 72401	932-2926
FP	Sears, Larry C.	924 South Main, Jonesboro 72401	972-8181
FP	Sears, V. Glenn	924 South Main, Jonesboro 72401	972-8181
RD	Shanlever, Rufus C.	1103 Wilkins, Jonesboro 72401 (Res.)	932-2450
ORS	Shanlever, W. T.	906 South Main, Jonesboro 72401	972-1640
EM	Shepherd, Walter F.	224 East Matthews, Jonesboro 72401	972-4288
PD	Skaug, Warren A.	505 East Matthews, Jonesboro 72401	935-6012
CDS	Smith, B. Michael	826 South Main, Jonesboro 72401	932-4875
GP	Smith, Floyd A., Jr.	415 West Main, Trumann 72472	483-6411
GP	Smith, Vestal B.	Post Office Box 614, Marked Tree 72365	358-2811



Type of Practice	Member's Name	Address	Telephone Number
AN	Sparks, E. Barrett	806 South Church, Jonesboro 72401	932-4211
OBG	St. Clair, John T., Jr	Post Office Box 1478, Jonesboro 72403	935-3990
OPH	Stanton, Joseph C	416 East Washington, Jonesboro 72401	932-0485
PTH	Stanton, Robert M., Jr	411 East Matthews, Jonesboro 72401	932-7430
FP	Stallings, Joe H	417 East Matthews, Jonesboro 72401	972-0550
FP	Swingle, Charles G	Post Office Box 267, Marked Tree 72365	358-2036
FP	Taylor, G. Wayne	211 East Matthews, Jonesboro 72401	972-1570
IM	Taylor, Robert D.	311 East Matthews, Jonesboro 72401	935-4150
FP	Tedder, Michael E.	3100 Apache Drive, Jonesboro 72401	972-1810
FP	Thomas, J. Fred.	514 Southwest Drive, Jonesboro 72401	935-8510
OPH	Utley, Philip M.	920 South Main, Jonesboro 72401	932-8221
FP	Verser, Joe	Post Office Box 106, Harrisburg 72432	578-5443
PTH	Vollman, Don B., Jr	411 East Matthews, Jonesboro 72401	932-7430
U	Williams, E. Walden	303 East Matthews, Jonesboro 72401	932-2926
EM	Wilson, Francis M	224 East Matthews, Jonesboro 72401	972-4288
PTH	Wilson, Joe T., Jr	411 East Matthews, Jonesboro 72401	932-7430
RD	Winters, W. Lee	2113 Indian Trails, Jonesboro 72401 (Res.)	935-4824
GP	Wisdom, G. Durwood	Post Office Box 4098, Jonesboro 72403	932-8121
IM	Woodruff, Stephen O	311 East Matthews, Jonesboro 72401	935-4150
OTO	Young, William C., Jr	311 East Matthews, Jonesboro 72401	932-6799

#### CRAWFORD COUNTY

FP	Darden, Lester R.	Post Office Box 1327, Van Buren 72956	474-2336
GP	Edds, Millard C.	1103 Chestnut, Van Buren 72956	474-2361
IM	Edwards, Henry N	Post Office Box 608, Van Buren 72956	474-5061
EM	Hefner, David P.	Crawford County Memorial Hospital, Van Buren 72956	474-3401
EM	Koone, Donald A.	Crawford County Memorial Hospital, Van Buren 72956	474-3401
GP	Sasser, L. Gordon, III	Post Office Box 438, Alma 72921	632-3855
RD	Shearer, F. E.	Post Office Box 458, Alma 72921 (Res.)	632-3556
FP	Sills, David B.	Post Office Box 16, Mountainburg 72946	369-2091
GP	Travis, A. Lawrence	Post Office Box 1327, Van Buren 72956	474-2336
	Yeager, Thomas D.	Nashville, Tennessee	

#### CRITTENDEN COUNTY

GYN	Arnold, Sidney W.	228 Tyler, West Memphis 72301	735-0836
IM	Datzman, Marilyn A	228 Tyler, West Memphis 72301	735-0833
GP	Deneke, Milton D.	Post Office Box 687, West Memphis 72301	735-1170
OBG	Ferguson, T. Murray	200 South Rhodes, West Memphis 72301	735-2150
OBG	Ford, Robert C., Jr	200 South Rhodes, West Memphis 72301	735-2150
FP	Hamilton, Ralph B	300 South Rhodes, West Memphis 72301	735-1170
NEP	Hernandez, Jacinto	228 Tyler, West Memphis 72301	735-2069
OTO	Hodges, John M.	300 Tyler, West Memphis 72301	735-7603
GS	Huffstutter, Paul J.	308 South Rhodes, West Memphis 72301	735-3664
GS	Jay, Gilbert D., III	200 South Rhodes, West Memphis 72301	735-4612
OPH	Kennedy, Keith B.	316 Tyler, West Memphis 72301	735-7680
GS	Lanford, H. G.	308 South Rhodes, West Memphis 72301	735-3664
ORS	L'Heureux, Guy J.	228 Tyler, West Memphis 72301	732-3836
FP	Lubin, Milton	200 South Rhodes, West Memphis 72301	735-3919
ORS	Meredith, Samuel G.	228 Tyler, West Memphis 72301	732-3836
IM	Nadeau, Kenneth R.	228 Tyler, West Memphis 72301	735-1973
IM	Peeples, Chester W., Jr	228 Tyler, West Memphis 72301	735-1973
OTO	Pettit, Paul N.	300 Tyler, West Memphis 72301	735-7603
GS	Schoettle, Glenn P.	308 South Rhodes, West Memphis 72301	735-3664
FP	Shrader, Floyd R.	1201 Missouri, West Memphis 72301	732-5555
GP	Smith, Bedford W.	300 South Rhodes, West Memphis 72301	735-1170
IM	Taylor, C. Herbert, Jr.	228 Tyler, West Memphis 72301	735-2069
R	Utley, L. Thomas	200 Tyler, West Memphis 72301	735-1500
IM	Webb, Dan W.	228 Tyler, West Memphis 72301	735-1973
OBG	Westbrook, H. Wade	228 Tyler, West Memphis 72301	732-2531
FP	Wright, William J.	210 Shoppingway, West Memphis 72301	735-8751

#### CROSS COUNTY

FP	Beaton, K. E.	Post Office Box 158, Wynne 72396	238-2321
FP	Bethell, Robert D.	Post Office Box 158, Wynne 72396	238-2321
FP	Bui, Doan V.	Post Office Box 725, Parkin 72373	755-5442
FP	Burks, Willard G.	Post Office Box 158, Wynne 72396	238-2321
GP	Crain, Vance J.	Post Office Box 158, Wynne 72396	238-2321
FP	Jacobs, James R.	411 South Falls, Wynne 72396	238-3261
FP	Young, John H.	411 South Falls, Wynne 72396	238-3261

#### DALLAS COUNTY

FP	Delamore, John H.	Post Office Box 351, Fordyce 71742	352-7117
FP	Howard, Don G.	110 North Clifton, Fordyce 71742	352-3151
FP	Nutt, Hugh A.	110 North Clifton, Fordyce 71742	352-5144
GP	Taylor, George D.	137 North Sixth, Arkadelphia 71923	246-8022

#### DESHA COUNTY

GS	Go, Kong Hua L.	Post Office Box 97, Dumas 71639	382-5252
GP	Harris, Howard R.	207 South Elm, Dumas 71639	382-4425
FP	Hoagland, Robert A.	145 West Waterman, Dumas 71639	382-4878
**AN	Money, William L.	4301 West Markham, Little Rock 72201	661-5000
GP	Moss, Swan B.	Post Office Box 652, McGehee 71654	222-3141
FP	Prosser, Robert L.	Post Office Box 707, McGehee 71654	222-6131
FP	Robinson, Guy U.	207 South Elm, Dumas 71639	382-4425
GP	Turney, Lonnie R.	101 South Third, McGehee 71654	222-4044
FP	Young, James E.	Post Office Box 707, McGehee 71654	222-6131

#### DREW COUNTY

PD	Austin, Lester K., Jr	711 H L. Ross Drive, Monticello 71655	367-6832
GP	Binns, Van C.	203 East Trotter, Monticello 71655	367-3531
EM	Burns, Robert E.	143 Hutchinson, Monticello 71655 (Res.)	367-3376
GP	Busby, Arlee K.	733 Roberts Drive, Monticello 71655	367-3246
FP	David, Andrew E.	750 H L. Ross Drive, Monticello 71655	367-6231
GP	Llana, Angelo T.	433 South Main, Monticello 71655	367-5955
RD	Price, Johnnie P.	232 South Main, Monticello 71655 (Res.)	367-5100
FP	Wallick, Paul A.	906 Roberts Drive, Monticello 71655	367-6867
FP	Wilson, Harold F.	906 Roberts Drive, Monticello 71655	367-6867

Type of Practice	Member's Name	Address	Telephone Number
<b>FAULKNER COUNTY</b>			
RD	Archer, Charles A. Jr	411 Western, Conway 72032 (Res.)	329-3412
GP	Banister, Bob G	923 Parkway, Conway 72032	329-3824
AN	Beasley, Margaret D	Post Office Box 404, Conway 72032	329-3831
FP	Beasley, T O	Post Office Box 1386, Conway 72032	329-2946
ADM	Benafield, Robert B	Post Office Box 2181, Little Rock 72203	378-2356
GP	Daniel, Sam V	574 Locust, Conway 72032	329-6111
FP	Dobbs, John C	Post Office Box 1327, Conway 72032	329-2948
	Doss, John R	Oklahoma	
IM	Furlow, William C	Post Office Box 1367, Conway 72032	327-1325
R	Garrison, James S	Conway Memorial Hospital, Conway 72032	329-3831
FP	Gordy, L Fred, Jr	552 Locust, Conway 72032	329-6881
OPH	Hendrickson, Richard O	1504 Caldwell, Conway 72032	327-4444
OPH	Magie, J J	1504 Caldwell, Conway 72032	327-4444
OBG	McChristian, Paul L	2519 College Avenue, Conway 72032	327-6547
FP	Ross, Rex W	Post Office Box 1327, Conway 72032	329-2948
FP	Smith, John D	923 Parkway, Conway 72032	329-3824
GP	Smith, Lander A	923 Parkway, Conway 72032	329-3824
FP	White, Tommie G	Post Office Box 1386, Conway 72032	329-2946
<b>FRANKLIN COUNTY</b>			
IM	Berenson, Les M	Post Office Box 1057, Ozark 72949	667-4021
GP	Calaway, Robert L	Post Office Box C, Mulberry 72947	997-1484
FP	Gibbons, David L	Post Office Box 136, Ozark 72949	667-4165
IM	Jefferson, Christina M	Post Office Box 1057, Ozark 72949	667-4021
PD	Jefferson, Thomas C	Post Office Box 1057, Ozark 72949	667-4021
ADM	Long, C C	Post Office Box 1208, Fort Smith 72902	782-8218
GS	Smith, John C	Post Office Box 1057, Ozark 72949	667-4021
IM	Sullivan, Christopher J	Post Office Box 1057, Ozark 72949	667-4021
<b>GARLAND COUNTY</b>			
IM	Adams, Frank M	236 Central, Hot Springs 71901	623-8751
U	Aspell, Robert W	304 St. Louis, Hot Springs 71913	321-9013
RD	Atkinson, Robert H	1305 Richard, Hot Springs 71901 (Res.)	624-5676
IM	Bodemann, Michael C	615 West Grand, Hot Springs 71901	623-2781
IM	Bodemann, Stephen L	615 West Grand, Hot Springs 71901	623-2781
RD	Bohnen, Loren O	806 Ramble, Hot Springs 71901 (Res.)	624-2208
IM	Bond, John B, Jr	505 West Grand, Hot Springs 71901	624-5697
OTO	Borg, Robert V	100 Ridgeway Place, Hot Springs 71901	624-5422
OPH	Bracken, Ronald J	505 West Grand, Hot Springs 71901	624-4478
OPH	Braley, Richard E	312 St. Louis, Hot Springs 71913	624-1196
GS	Brunner, John H	101 Whittington, Hot Springs 71901	321-2229
EM	Bumpas, Timothy F	Ouachita Memorial Hospital, Hot Springs 71901	624-5702
#	Burrow, Thomas E	Hot Springs	
RD	Burton, Frank M	106 Trivista Right, Hot Springs 71901 (Res.)	623-8323
U	Burton, James F	101 Whittington, Hot Springs 71901	321-2229
GS	Campbell, James W	236 Central, Hot Springs 71901	624-5700
D	Cates, Jack A	100 Ridgeway Place, Hot Springs 71901	624-3376
GS	Chamberlain, Joe W	330 Sixth, Hot Springs 71913	623-4477
GS	Chamberlain, Warren W	330 Sixth, Hot Springs 71913	623-4477
RHU	Clardy, Edgar K	604 Central Towers Building, Hot Springs 71901	623-9684
FP	Clark, Robert B	211 Hobson, Hot Springs 71913	623-8341
	Connelly, Jerry H	Greensboro, North Carolina	
RD	Daniel, Richard L	125 Carl Drive, #58, Hot Springs 71913 (Res.)	623-9753
AN	Davis, Sheryl L	101 Ladue Drive, Hot Springs 71901 (Res.)	623-9216
D	Dean, Arthur J, Jr	99 Little Pine, Hot Springs 71901	624-0673
IM	Dembinski, T. Henry	804½ Central, Hot Springs 71901	623-9781
RD	Dodson, John W	37 Circle Drive, Hot Springs 71901 (Res.)	623-1025
GE	Dunn, Richard W	133 Arbor, Hot Springs 71901	623-4898
ORS	Durham, Thomas M, Jr	505 West Grand, Hot Springs 71901	623-7117
RD	Edwards, Gwilym A	1 Magda Lane, Hot Springs Village 71909 (Res.)	922-0552
GS	Eisele, W Martin	101 Whittington, Hot Springs 71901	321-2229
OBG	Finan, E. Michael	225 Linden, Hot Springs 71901	623-6455
R	Fore, Robert W	911 West Grand, Hot Springs 71913	623-6693
GP	Fotioo, George J	505 Central Towers Building, Hot Springs 71901	623-5121
GS	French, James H	101 Whittington, Hot Springs 71901	321-2229
GP	Gardial, J Richard	125 Greenwood, Hot Springs 71901	623-3373
FP	Gardner, James L	125 Greenwood, Hot Springs 71901	623-0904
RD	Garner, Onyx P	(Address unknown)	
FP	Graham, Richard F	505 West Grand, Hot Springs 71901	623-4391
OTO	Griffin, James E	100 Ridgeway, Hot Springs 71901	624-5422
OBG	Haggard, John L	101 Whittington, Hot Springs 71901	321-2229
OTO	Harper, Edwin L	100 Ridgeway, Hot Springs 71901	624-5422
FP	Hechanova, D. M., Jr	1315 Central, Hot Springs 71901	624-5206
CD	Heinemann, Fred M	ABT Towers, #504, Hot Springs 71901	624-6641
GS	Hill, Robert L	905 West Grand, Hot Springs 71913	623-9581
FP	Hollis, Thomas H	125 Greenwood, Hot Springs 71901	623-3373
CDS	Howe, H Joe	101 Whittington, Hot Springs 71901	321-2229
AN	Humphreys, Robert P	229 Hazel, Hot Springs 71901	623-7601
D	Irwin, William G	Post Office Box 2588, Hot Springs 71913	321-9455
P	Jackson, George W	901 West Grand, Hot Springs 71913	623-3502
GYN	Jackson, Haynes G	Post Office Box 2067, Hot Springs 71914	623-6628
OBG	Jackson, Haynes G, Jr	Post Office Box 2067, Hot Springs 71914	623-6628
CD	Jayaraman, K K	2513 Malvern, Hot Springs 71901	321-2513
PTH	Jayaraman, Vilasini D	Post Office Box 1460, Hot Springs 71902	623-2518
PUD	Jayasundera, Naomal S	225 Linden, Hot Springs 71901	623-7163
OPH	Johnston, Gaither C	99 Little Pine, Hot Springs 71901	624-7106
GP	Jumper, Mark W	211 Hobson, Hot Springs 71913	623-8341
GS	Kaler, Ron A	905 West Grand, Hot Springs 71913	623-9581
GP	Keadle, William R	Post Office Box P, Glenwood 71943	356-3155
OBG	Kimberlin, G Dan	101 Whittington, Hot Springs 71901	321-2229
ORS	Kincheloe, A Dale	133 Arbor, Hot Springs 71901	321-2663
RD	King, Leeman H	610 Ramble, Hot Springs 71901 (Res.)	623-8185
ORS	Kleinhenz, Robert W	133 Arbor, Hot Springs 71901	321-2663
AN	Klugh, Walter G, Jr	300 St. Louis Place, Hot Springs 71913	623-9216
FP	Koehn, Martin A	328 Ouapaw, Hot Springs 71901	321-9292
P	Lane, Charles S, III	225 Linden, Hot Springs 71901	624-4490
IM	Lang, Patricia A	8 Cordoba Center, Hot Springs Village 71909	624-5703
PTH	Lee, W R	Post Office Box 1460, Hot Springs 71902	623-2518
P	Lewis, Robert L	Post Office Box 850, Hot Springs 71902	624-2354
GP	Lovell, Lawrence R	414 Albert Pike, Hot Springs 71913	624-1211
GS	Mahone, J Kelly	905 West Grand, Hot Springs 71913	623-9581
IM	Maruthur, Gopakumar	133 Arbor, Hot Springs 71901	623-1545
IM	Mashburn, William R	99 Little Pine, Hot Springs 71901	623-4453
ORS	McConkie, Stuart B	715 West Grand, Hot Springs 71913	623-5300
GYN	McCrary, Robert F	505 West Grand, Hot Springs 71901	321-2217



Type of Practice	Member's Name	Address	Telephone Number
NEP	McCrary, Robert F. Jr	236 Central, Hot Springs 71901	321-9803
PD	McFarland, Louis R	211 Hobson, Hot Springs 71913	321-1314
GP	McMahan, James C	306 Albert Pike, Hot Springs 71901	624-2111
GS	Meek, Gary N	905 West Grand, Hot Springs 71913	623-9581
R	Munos, Louis R	911 West Grand, Hot Springs 71913	623-6693
PD	Newton, Doane M	236 Woodbine, Hot Springs 71901	321-2546
CD	Pai, Balakrishna V	236 Central, Hot Springs 71901	623-7510
OBG	Pappas, Deno P	101 Whittington, Hot Springs 71901	321-2229
#	Parkerson, Carl R	Hot Springs	
GP	Parkerson, Cecil W	1421 Central, Hot Springs 71901	624-3341
RD	Peeples, Raymond E	Route 19, Box 254, Hot Springs 71913 (Res )	262-3346
PTH	Pemmaraju, Seshagiri Rao	Post Office Box 1460, Hot Springs 71902	623-2518
RD	Power, Ailyn R	Majestic Hotel, Hot Springs 71901 (Res )	623-5511
OBG	Rainwater, W S	101 Whittington, Hot Springs 71901	321-2229
PD	Robert, Jon M	236 Woodbine, Hot Springs 71901	321-2546
RHU	Robertson, Fred T	Post Office Box 850, Hot Springs 71902	624-1281
PM	Rosenzweig, Joseph L	Post Office Box 1358, Hot Springs 71902	624-4411
RD	Sanders, Hallman E	220 Bafanridge, Hot Springs 71901 (Res )	624-2869
GP	Seifert, Kenneth A	8 DeSoto Center, Hot Springs Village 71909	922-0540
GER	Shriner, Walter	8 DeSoto Center, Hot Springs Village 71909	922-0540
FP	Simpson, John B	328 Ouapaw, Hot Springs 71901	321-9292
ORS	Smith, Bruce L, Jr	715 West Grand, Hot Springs 71913	623-5300
R	Smith, Phillip L	911 West Grand, Hot Springs 71913	623-6693
R	Springer, Melvin R, Jr	911 West Grand, Hot Springs 71913	623-6693
R	Springer, William Y	911 West Grand, Hot Springs 71913	623-6693
FP	Stecker, Elton H, Jr	1315 Central, Hot Springs 71901	624-5206
FP	Stecker, Rheeta M	1315 Central, Hot Springs 71901	624-5206
D	Stough, D B, III	99 Little Pine, Hot Springs 71901	624-0673
OPH	Thomas, W Al	Post Office Drawer D, Hot Springs 71902	624-1204
OBG	Thompson, Thomas P	101 Whittington, Hot Springs 71901	321-2229
PD	Trieschmann, John W	Post Office Box 2458, Hot Springs 71913	321-2546
RD	Wade, H King, Jr	118 Trivista Right, Hot Springs 71901 (Res.)	623-9426
OPH	Wallace, Thomas R	505 West Grand, Hot Springs 71901	624-0609
FP	Wilson, William C	101 Doris Lane, Hot Springs 71913	623-1151
GP	Wise, W Paul	Post Office Box 626, Hot Springs 71902	624-4411
U	Woodward, Philip A	903 West Grand, Hot Springs 71913	623-8110

#### GRANT COUNTY

GP	Irvin, Jack M	205 West High, Sheridan 72150	942-3171
FP	Paulk, Clyde D	Post Office Box 307, Sheridan 72150	942-5155

#### GREENE-CLAY COUNTY

R	Baker, A J	Post Office Box 339, Paragould 72450	236-3486
GP	Baker, Clark M	115 West Court, Paragould 72450	236-6356
PTH	Boggs, Dwight F	#1 Medical Drive, Paragould 72450	239-7131
FP	Bonner, J Darrell	1015 West Kingshighway, Paragould 72450	239-4076
FP	Cagle, Roger E	#1 Medical Drive, Paragould 72450	239-8504
GP	Collier, George H	Post Office Box 361, Paragould 72450	236-6911
FP	Collier, Jon D	#5 Market Place, Paragould 72450	236-6911
GP	Crow, Asa A	#1 Medical Drive, Paragould 72450	239-8504
FP	Duckworth, H R	Post Office Box 303, Piggott 72454	598-2236
OT	Futrell, J B	414 West 2nd, Rector 72461	595-3332
OPH	Hardcastle, R Lowell	#1 Medical Drive, Paragould 72450	236-6948
GP	Harper, Bland R	Post Office Box C, Monette 72447	486-2706
ORS	Hazzard, Marion P	#1 Medical Drive, Paragould 72450	236-6996
FP	Hobby, George A	#1 Medical Drive, Paragould 72450	239-8579
U	Jones, Bryant W	#1 Medical Drive, Paragould 72450	239-2585
FP	Kemp, Clarence L	#1 Medical Drive, Paragould 72450	239-8504
GS	Lawson, J Larry	#1 Medical Drive, Paragould 72450	239-5916
AN	Martin, Richard O	Post Office Box 339, Paragould 72450	239-7194
RD	McKelvey, Earle D	319 Grandview, Clarksville 72830 (Res )	754-2382
FP	Mitchell, Bennie E	901 West Kingshighway, Paragould 72450	239-8576
FP	Muse, Jerry L	Post Office Box 352, Piggott 72454	598-2237
GP	Page, Billie C	#1 Medical Drive, Paragould 72450	236-2364
R	Purcell, Donald I	Post Office Box 339, Paragould 72450	239-8431
PTH	Richmond, Jack G	Post Office Box 339, Paragould 72450	236-7733
GS	Sellars, John R	#1 Medical Drive, Paragould 72450	239-5926
FP	Shedd, L L	1015 West Kingshighway, Paragould 72450	239-4076
FP	Shotts, C Mack	#1 Medical Drive, Paragould 72450	239-8505
PD	Shotts, Vern Ann	1015 West Kingshighway, Paragould 72450	239-4076
FP	Watson, Samuel D	901 West Kingshighway, Paragould 72450	236-8591
OPH	Webb, James W	920 South Main, Jonesboro 72401	932-8221
IM	White, Robert B	#1 Medical Drive, Paragould 72450	239-9549
FP	Williams, Jacob M	1015 West Kingshighway, Paragould 72450	239-4076

#### HEMPSTEAD COUNTY

GP	Branch, James W, Sr	420 South Main, Hope 71801	777-4636
PTH	Dodd, N Leland	Post Office Box 1118, Hope 71801	777-9324
GP	Goins, Dale E	Post Office Box 550, Hope 71801	777-2131
FP	Harden, Charles M, Jr	Post Office Box 308, Hope 71801	777-3810
GP	Harris, Lowell O	Post Office Box 550, Hope 71801	777-2131
FP	Holt, Forney G	300 East 6th, Texarkana 75502	774-3211
GS	Martindale, James G	Post Office Box 861, Hope 71801	777-3464
GP	McKenzie, Jim	Post Office Box 687, Hope 71801	777-2321
R	Stevens, David G	Route 4, Box 329-S, Hope 71801 (Res )	777-9777
FP	Warmack, Asa M	Post Office Box 687, Hope 71801	777-2321
FP	Wright, George H	405 West 16th, Hope 71801	777-6722

#### HOT SPRING COUNTY

GP	Brashears, Larry B	1234 South Main, Malvern 72104	332-5246
IM	Burton, Bruce K	1002 Schneider, Malvern 72104	337-9031
FP	Clark, Curtis B	294 Summar, Jackson, Tennessee 38301	901-423-1935
FP	Cobb, Russell W	1420 Potts, Malvern 72104	332-3112
AN	Ellis, C Randolph	1004 South Main, Malvern 72104	332-6941
FP	Justus, Michael G	1002 Schneider Drive, Malvern 72104	337-9066
GP	Kersh, N B	1518 McBee, Malvern 72104	337-7533
#	McCray, Raymond V	Malvern	
GS	Murphy, Kenneth	1002 Schneider Drive, Malvern 72104	337-4935
FP	Peters, C F	1420 Potts, Malvern 72104	332-2521
GP	Vaughan, John A	115 East Highland, Malvern 72104	332-2371
FP	White, Bruce A	1002 Schneider Drive, Malvern 72104	337-9066
FP	White, Robert H	1004 Dyer, Malvern 72104	332-3664

Type of Practice	Member's Name	Address	Telephone Number
<b>HOWARD-PIKE COUNTY</b>			
FP	Buckley, Douglas A	Post Office Box 834, Nashville 71852	845-4622
GP	Chambers, William H.	Post Office Box 1750, Nashville 71852	845-4041
GP	Gullett, A. Dale	Post Office Box 98, Dierks 71833	286-3154
GS	Hearnsberger, John E	Post Office Box 508, Nashville 71852	845-1761
FP	Humphreys, T. J., Jr	Post Office Box 575, Nashville 71852	845-2922
GP	Jones, William J	Post Office Box 49, Glenwood 71943	356-3921
FP	King, Joe D.	Post Office Box 549, Nashville 71852	845-1933
FP	Peebles, Samuel W	120 West Sybert, Nashville 71852	845-4676
R	Pye, Ted H	1206 North 14th, Nashville 71852 (Res.)	845-5341
GP	Turbeville, James O	Post Office Box 434, Murfreesboro 71958	285-2182
GP	Ward, Hiram T	Post Office Box 319, Murfreesboro 71958	285-2491
FP	White, Phillip L	Post Office Box 538, Murfreesboro 71958	285-3118
GP	Wilmoth, Marion H	Post Office Box 804, Nashville 71852	845-4780
<b>INDEPENDENCE COUNTY</b>			
FP	Baker, J. R	Post Office Box 2001, Batesville 72503	793-5356
CD	Baxley, Paul J	4301 West Markham, Little Rock 72201	661-5880
FP	Beck, Carl T	Post Office Drawer J, Mountain View 72560	269-3834
R	Bess, Lloyd G	1490 Byers, Batesville 72501	793-2207
U	Day, Charles H	Post Office Box 2116, Batesville 72503	698-1808
P	Goodin, William H., Jr	407 Virginia Drive, Batesville 72501	793-4831
PTH	Hill, John M., Jr	Post Office Box 2116, Batesville 72503	793-5251
OBG	Jones, Edward J	409 Virginia Drive, Batesville 72501	793-4300
OPH	Jones, Edward T.	180 North 5th, Batesville 72501	793-5257
IM	Kauffman, P. David	501 Virginia Drive, Batesville 72501	793-8374
GS	Ketz, Wesley J	Post Office Box 2695, Batesville 72503	793-2321
GS	Lambert, John S	501 Virginia Drive, Batesville 72501	698-1846
ORS	Luter, Dennis W	501 Virginia Drive, Batesville 72501	793-2371
FP	Lytle, Jim E	Post Office Box 2116, Batesville 72503	793-6663
R	McClain, Charles M., Jr	1490 Byers, Batesville 72501	793-2207
GP	Moody, Lackey G	Post Office Box 2335, Batesville 72503	793-6888
GP	Raney, Troy	Post Office Box 83, Cave City 72521	283-5762
FP	Scott, John G	Post Office Box 2116, Batesville 72503	793-1126
FP	Slaughter, Bob L.	Post Office Box 2553, Batesville 72503	793-2540
FP	Smith, Bob G	Post Office Box 2116, Batesville 72503	793-9352
GS	Staiker, James M	Post Office Box 2575, Batesville 72503	793-5205
GS	Strickland, N. E	501 Virginia Drive, Batesville 72501	698-1846
GP	Taylor, Chaney W	Post Office Box 2116, Batesville 72503	793-5251
RD	Taylor, Charles A.	Route 7, Box 649A, Batesville 72501 (Res.)	793-2836
GP	Tucker, Charles L	Post Office Box 38, Ash Flat 72513	994-7301
AN	Turner, Samuel R	920 15th Street, Batesville 72501	793-1133
<b>JACKSON COUNTY</b>			
IM	Ashley, John D	2000 McLain, Newport 72112	523-6721
GS	Carney, J. W	Post Office Box 699, Newport 72112	523-3489
R	Chauhan, Mufiz A.	Post Office Box 605, Newport 72112	523-6591
IM	Dudley, Guilford M.	2000 McLain, Newport 72112	523-5272
FP	Duke, Fran L	Post Office Box 130, Newport 72112	523-5344
GS	Frankum, Jerry M., Jr	Post Office Box 606, Newport 72112	523-5879
GP	Green, Roger L	Post Office Box 159, Newport 72112	523-6721
RD	Harris, M. Haymond	501 Walnut, Newport 72112 (Res.)	523-5168
OBG	Jackson, Jabez F., Jr	Post Office Box A, Newport 72112	523-3289
RD	Jackson, Jabez F	304 Ash, Newport 72112 (Res.)	523-8314
FP	Junkin, A. Bruce	Post Office Box 69, Newport 72112	523-3666
ORS	Lopez, Ramon E.	1902 McLain, Newport 72112	523-2942
GS	Poon, Hon K.	Post Office Box 206, Newport 72112	523-6796
OPH	Stanfield, Wayne	Post Office Box 129, Newport 72112	523-3321
RD	Williams, Thomas E	12 Park Place, Newport 72112 (Res.)	523-6121
R	Young, Jack S	Post Office Box 67, Newport 72112	523-8115
<b>JEFFERSON COUNTY</b>			
#	Adams, Carl H	Little Rock	
RD	Anderson, Charles W	1411 Olive, Pine Bluff 71601 (Res.)	535-1661
FP	Atnip, Gwyn	1111 West 15th, Pine Bluff 71603	535-3551
FP	Bell, Carl H., Jr	1602 West 42nd, Pine Bluff 71603	535-4850
ORS	Blackwell, Banks	Post Office Box 1406, Pine Bluff 71613	534-3122
FP	Bonner, Steven P	1421 Cherry, Pine Bluff 71601	541-0770
OBG	Bracy, Calvin M.	1301 West 43rd, Pine Bluff 71603	536-7550
U	Brooks, R. Teryl, Jr	1801 West 40th, Pine Bluff 71603	536-7758
FP	Bryant, R. Frank	1112 Linden, Pine Bluff 71603	534-4352
OTO	Buckley, J. Wayne	1408 West 43rd, Pine Bluff 71603	535-5719
P	Burford, Thomas G	4313 West Markham, Little Rock 72201	664-4500
PD	Burke, Bryan L., Jr	1420 West 43rd, Pine Bluff 71603	534-6210
GE	Butler, Robert C	1801 West 40th, Pine Bluff 71603	536-7660
PUD	Campbell, J. C	1604 West 42nd, Pine Bluff 71603	536-8507
AN	Carlisle, David L.	1410 West 42nd, Pine Bluff 71603	535-5522
P	Carlton, I. L.	Post Office Box 1019, Pine Bluff 71613	534-1834
FP	Cheek, Ben H.	Post Office Box 1285, Pine Bluff 71613	541-7189
PTH	Clark, James F., Jr	1515 West 42nd, Pine Bluff 71603	541-7528
FP	Coker, L. Randle	Post Office Box 276, Star City 71667	628-4292
IM	Crenshaw, John	4201 Mulberry, Pine Bluff 71603	535-2200
D	Davis, Charles M.	1416 West 43rd, Pine Bluff 71603	535-7477
IM	Dedman, John D	4201 Mulberry, Pine Bluff 71603	535-2200
CD	Deneke, William A	1612 West 42nd, Pine Bluff 71603	536-3015
OBG	Devi, T. S	1801 West 40th, Pine Bluff 71603	536-0974
GS	Dickins, Robert D. Sr	1003 Cherry, Pine Bluff 71601	534-8141
EM	Edmiston, Frank G	18101 Fawn Tree Drive, Little Rock 72209 (Res.)	455-1315
R	Fendley, Claude E.	Post Office Box 7863, Pine Bluff 71611	534-8651
GP	Flowers, Martha A.	119 East 4th, Pine Bluff 71601	534-5523
TS	Forestiére, Lee A	1801 West 40th, Pine Bluff 71603	534-4188
R	Fuller, C. James	Post Office Box 7863, Pine Bluff 71611	534-8651
IM	Gaston, Robert S.	1801 West 40th, Pine Bluff 71603	541-0222
RD	Glasscock, Robert E	3218 Elm, Pine Bluff 71601 (Res.)	535-6438
PD	Green, Horace L.	1420 West 43rd, Pine Bluff 71603	534-6210
IM	Green, Linda Haynie	1710 Doctors Drive, Pine Bluff 71603	534-6570
ORS	Gullett, Robert R., Jr	1801 West 40th, Pine Bluff 71603	536-7579
R	Hardin, J. David	Post Office Box 7863, Pine Bluff 71611	534-8651
IM	Harper, William F.	1801 West 40th, Pine Bluff 71603	536-9230
PD	Hart, J. Clyde, Jr	1420 West 43rd, Pine Bluff 71603	534-6210
R	Hegwood, Henri M	Post Office Box 7863, Pine Bluff 71611	534-8651
EM	Henderson, Francis M	120 South Walnut, Pine Bluff 71601	535-0855
RD	Herron, John T.	2824 Foxcroft Road, #49 Little Rock 72207 (Res.)	227-9484
IM	Hoover, S. H.	1708 West 42nd, Pine Bluff 71603	536-7300



Type of Practice	Member's Name	Address	Telephone Number
OPH	Hughes, L. Milton	1414 West 43rd, Pine Bluff 71603	536-7738
FP	Hussain, Shafqat	1801 West 40th, Pine Bluff 71603	535-4640
RD	Hutchison, E. L.	Post Office Box 1365, Pine Bluff 71613 (Res.)	534-1326
OBG	Hyman, Carl E.	121 East 4th, Pine Bluff 71601	534-3365
N	Ingram, Thomas E.	1726 Doctors Drive, Pine Bluff 71603	535-4803
GS	Irwin, Raymond A., Jr	1220 West 42nd, Pine Bluff 71603	535-2100
U	Jacks, David C.	4303 Mulberry, Pine Bluff 71603	535-4221
P	James, William J.	Post Office Box 1019, Pine Bluff 71613	534-1834
CD	Jenkins, Bobby J.	1612 West 42nd, Pine Bluff 71603	536-3015
AN	Jenkins, Mary Ellen	1410 West 42nd, Pine Bluff 71603	535-5522
GS	Johnson, Horace	2526-B East Harding, Pine Bluff 71601	534-3910
R	Joseph, Aubrey S	Post Office Box 7863, Pine Bluff 71611	534-8651
FP	Justiss, Richard D	1222 West 42nd, Pine Bluff 71603	535-1819
OBG	Kaipa, Siva P	1708 Doctors Drive, Pine Bluff 71603	535-1025
AN	Khan, M. A.	1410 West 42nd, Pine Bluff 71603	535-5522
OPH	King, Yum Y	4800 South Hazel, Pine Bluff 71603	536-1897
OTO	Langston, Lloyd G	1408 West 43rd, Pine Bluff 71603	535-5719
GS	Ligon, Ralph E.	1801 West 40th, Pine Bluff 71603	534-4188
FP	Lindsey, James A	1222 West 42nd, Pine Bluff 71603	535-1819
ORS	Lipscomb, Larry G	1801 West 40th, Pine Bluff 71603	536-7579
D	Lum, Don	4301 Mulberry, Pine Bluff 71603	541-0400
GS	Mabry, Charles D	1716 West 42nd, Pine Bluff 71603	535-8280
FP	Maynard, Ross E.	303 National Building, Pine Bluff 71601	534-5732
R	McDonald, Robert L	Post Office Box 7863, Pine Bluff 71611	534-8651
OPH	McFarland, Mike S	1801 West 40th, Pine Bluff 71603	536-4100
NEP	Mehta, Shyam P	4400 Mulberry, Pine Bluff 71603	536-6105
GS	Meredith, William R	1704 West 42nd, Pine Bluff 71603	535-8727
ADM	Miller, Donald L.	1515 West 42nd, Pine Bluff 71603	541-7611
R	Milligan, Monte C.	909 West 4th, Fordyce 71742	352-3442
RD	Monroe, Sanford C.	1600 West 35th, Pine Bluff 71603 (Res.)	534-1130
FP	Morris, Harold J	1030 Poplar, Pine Bluff 71601	534-0822
OPH	Nixon, William R	709 West 6th, Pine Bluff 71601	534-2624
IM	Nuckolls, J. William	1801 West 40th, Pine Bluff 71603	541-0222
CD	Pearce, Malcolm B	1612 West 42nd, Pine Bluff 71603	536-3015
FP	Perry, V. Bryan	1722 West 42nd, Pine Bluff 71603	535-4141
GYN	Pierce, J. R., Jr	1702 West 42nd, Pine Bluff 71603	535-3443
OBG	Pierce, Ruston Y	1702 West 42nd, Pine Bluff 71603	535-3443
FP	Raney, O. C.	1720 West 42nd, Pine Bluff 71603	534-5861
ORS	Reed, E. Frank	916 Cherry, Pine Bluff 71601	535-0121
PD	Reid, Lloyene B	1420 West 43rd, Pine Bluff 71603	534-6210
GS	Rittelmeyer, Clarence M	1704 West 42nd, Pine Bluff 71603	535-8727
OBG	Roaf, Sterling A	1310 Linden, Pine Bluff 71603	536-4602
GS	Roberson, George V	1801 West 40th, Pine Bluff 71603	535-2716
FP	Robinette, Joseph S	1718 Doctors Drive, Pine Bluff 71603	535-2372
GE	Rogers, Henry L	1801 West 40th, Pine Bluff 71603	536-7660
OBG	Ross, Robert L.	1305 West 43rd, Pine Bluff 71603	534-8993
AN	Samuel, Ferdinand K	Post Office Box 1272, Pine Bluff 71613	535-7457
OTO	Shorts, Stephen D	1408 West 43rd, Pine Bluff 71603	535-5719
GYN	Simmons, Calvin R	1714 West 42nd, Pine Bluff 71603	535-3213
NS	Simpson, P. B., Jr.	1801 West 40th, Pine Bluff 71603	536-8547
PD	Smith, Paul L.	Post Office Box 1648, Pine Bluff 71613	536-4566
GS	Smith, Robert J	817 Cherry, Pine Bluff 71601	535-1880
RD	Stern, Howard S	2404 West 47th, Pine Bluff 71603 (Res.)	534-8281
GS	Sullenberger, A. G	1726 West 42nd, Pine Bluff 71603	534-4407
PTH	Tisdale, A. D	1515 West 42nd, Pine Bluff 71603	541-7524
PD	Townsend, Thomas E.	1420 West 43rd, Pine Bluff 71603	534-6210
IM	Tracy, C. Clyde	4201 Mulberry, Pine Bluff 71603	535-2200
FP	Waheed, Atiya N	1608 West 42nd, Pine Bluff 71603	536-9700
GS	Wilkins, Walter J	1220 West 42nd, Pine Bluff 71603	535-2100
IM	Wineland, Herbert L.	1710 West 42nd, Pine Bluff 71603	534-3561
A	Worrell, Aubrey M., Jr	3900 Hickory, Pine Bluff 71603	535-8200
FP	Yalamanchili, R. R.	1421 Cherry, Pine Bluff 71601	541-0770

JOHNSON COUNTY

FP	Fraser, Robert E.	Post Office Box 668, Clarksville 72830	754-8384
FP	McAuley, John R.	Post Office Box 668, Clarksville 72830	754-8384
GS	McKelvey, Richard E.	Post Office Box 440, Clarksville 72830	754-6510
FP	Patterson, Jack T.	Post Office Box 668, Clarksville 72830	754-8384
FP	Pennington, Donald H	Post Office Box 668, Clarksville 72830	754-8384
RD	Shrigley, Guy P.	Post Office Box 70, Clarksville 72830 (Res.)	754-3236
FP	Taylor, George W	Post Office Box 668, Clarksville 72830	754-8384
FP	West, Boyce W	Post Office Box 220, Clarksville 72830	754-6661

LAFAYETTE COUNTY

GP	Ditsch, Craig E.	Post Office Box 276, Stamps 71860	533-4461
RD	Lee, Willie J.	3104 Crestridge, Texarkana 75503 (Res.)	214-793-2815

LAWRENCE COUNTY

GP	Cruse, Edward J.	Post Office Box 116, Black Rock 72415	878-6209
RD	Dickey, A. B.	704 Northwest 3rd, Walnut Ridge 72476 (Res.)	886-5377
GP	Elders, J. B.	Post Office Box 595, Walnut Ridge 72476	886-3162
FP	Hughes, Joe E.	Post Office Box 719, Walnut Ridge 72476	886-3543
IM	Joseph, Ralph F.	Post Office Box 109, Walnut Ridge 72476	886-3211
FP	Lancaster, Teddy S	Post Office Box 719, Walnut Ridge 72476	886-3543
IM	Quevillon, Robert D	421 Southwest 3rd, Walnut Ridge 72476	886-9575
R	Smoot, John D.	Post Office Box 934, Jonesboro 72403	886-1244
FP	Spades, S. A., III	Post Office Box 719, Walnut Ridge 72476	886-3543
GS	Wilson, Stephen K.	Post Office Box 591, Walnut Ridge 72476	886-6409

LEE COUNTY

GP	Fields, E. C.	77 West Main, Marianna 72360	295-5244
FP	Gray, Dwight W	110 West Chestnut, Marianna 72360	295-3131
GP	Ly, Duong N	29 West Tennessee, Marianna 72360	295-2543
GP	Waddy, Leon M., Jr.	530 West Atkins, Marianna 72360	295-5225

LITTLE RIVER COUNTY

FP	Armstrong, James D	Post Office Box 637, Ashdown 71822	898-3306
IM	Gillean, John A., III	Post Office Box 818, Ashdown 71822	898-5036
GP	Gillean, Myra M.	Post Office Box 818, Ashdown 71822	898-5036
RD	Peacock, Norman W., Jr	Route 2, Peacock Addition, Ashdown 71822 (Res.)	898-3353
FP	Shelton, Joe G., Jr.	Post Office Box 697, Ashdown 71822	898-3306
EM	Wade, Billy K	Post Office Box 126, Ashdown 71822	898-5886

Type of Practice	Member's Name	Address	Telephone Number
<b>LOGAN COUNTY</b>			
GP	Baskerville, Jerry R	Post Office Box 625, Paris 72855	963-2132
FP	Daniel, William R.	114 West Fourth, Booneville 72927	675-2455
FP	Enns, Wayne P.	Post Office Box 625, Paris 72855	963-2132
FP	Roberts, William J.	114 West Fourth, Booneville 72927	675-2455
GP	Smith, James T.	Post Office Box 286, Paris 72855	963-2191
GP	Ulrich, Guy	Post Office Box 626, Paris 72855	963-6181
FP	Williams, John R	114 West Fourth, Booneville 72927	675-2455
<b>LONOKE COUNTY</b>			
FP	Abrams, Joe A	Post Office Box 993, Cabot 72023	843-6528
FP	Braswell, Tommy R	Post Office Box 130, England 72046	842-2597
FP	Camp, Arthur W	Post Office Box 547, Hazen 72064	255-3321
FP	Gartman, Joseph F	Post Office Box 450, Carlisle 72024	552-3221
GP	Harris, Willie R	Post Office Box 40, England 72046	842-2553
GP	Holmes, Byron E.	305 West Front, Lonoke 72086	676-6560
FP	Inman, Fred C., Jr.	Post Office Box K, Carlisle 72024	552-7575
OM	Kimsey, Warren H.	Remington Arms Company, Lonoke 72086	676-3161
**PTH	Lanehart, William H.	Shreveport, Louisiana	
GP	Schumann, Gerald M.	Post Office Drawer A, Des Arc 72040 (Res.)	256-4312
GP	Washburn, C Yulan	Route 1, Box 877, Ward 72176 (Res.)	843-3335
<b>MILLER COUNTY</b>			
R	Andrews, A. E.	Post Office Box 689, Texarkana 75504	774-2121
GS	Barnes, Walter C	300 East Sixth, Texarkana 75502	214-774-3211
NEP	Blankenship, D. Michael	803 Pine, Texarkana 75501	214-792-6946
NS	Bohmfalk, George L	1001 Main, Texarkana 75501	214-794-4196
GS	Bransford, Robert M.	300 East Sixth, Texarkana 75502	774-3211
FP	Burnett, James W	414 Hazel, Texarkana 75501	774-7301
PD	Burns, Billy R	Post Office Box 1409, Texarkana 75504	214-792-7151
PD	Burroughs, James C	300 East Sixth, Texarkana 75502	774-3211
GP	Dildy, Edwin V.	Post Office Box 1409, Texarkana 75504	214-792-7151
OBG	Druff, Gerald H.	300 East Sixth, Texarkana 75502	774-3211
GS	Duncan, Donald L.	300 East Sixth, Texarkana 75502	774-3211
A	Fournier, Donald C.	Post Office Box 1409, Texarkana 75504	214-792-7151
ORS	Green, Barry M.	1423 Main, Texarkana 75501	214-794-3661
OBG	Hall, Eric E.	Post Office Box 1409, Texarkana 75504	214-792-7151
PD	Hall, Jon D.	300 East Sixth, Texarkana 75502	774-3211
GYN	Harrell, William B., Jr	Post Office Box 2078, Texarkana 75501	214-792-8231
FP	Harris, C. Lynn	Post Office Box 1409, Texarkana 75504	214-792-7151
OBG	Harrison, Jack W	300 East Sixth, Texarkana 75502	774-3211
GYN	Harrison, James W	300 East Sixth, Texarkana 75502	774-3211
GE	Hughes, A. Keith	300 East Sixth, Texarkana 75502	774-3211
RD	Hughes, R. Paul	3935 Texas Boulevard, Texarkana 75503 (Res.)	214-793-3385
IM	Hutcheson, Fred A., Jr	300 East Sixth, Texarkana 75502	774-3211
GYN	Jones, John Walter	300 East Sixth, Texarkana 75502	774-3211
PTH	Joyce, Frederick E.	Post Office Box 2763, Texarkana 75504	774-2121
GS	Kemp, Karlton H.	408 Hazel, Texarkana 75502	774-5181
IM	Khalil, Sondra L.	Post Office Box 1409, Texarkana 75504	214-792-7151
FP	Kittrell, James B	1001 Main, Texarkana 75501	214-794-6107
RD	Laws, John K.	#9 Cambridge, Texarkana 75504 (Res.)	772-1209
R	Leavelle, Ray W	Post Office Box 689, Texarkana 75504	214-794-4756
D	Loe, Arlis W.	Post Office Box 1409, Texarkana 75504	214-792-7151
R	McGinnis, Robert S., Sr.	Post Office Box 1409, Texarkana 75504	214-792-7151
PD	Meredith, Paul D.	Post Office Box 1409, Texarkana 75504	214-792-7151
OPH	Newton, Norris L.	Post Office Box 2830, Texarkana 75504	214-792-8541
CD	Osborn, Roger C., Jr	Post Office Box 1409, Texarkana 75504	214-792-7151
IM	Peckham, Richard W	1001 Main, Texarkana 75501	214-794-6121
IM	Rodgers, Nathaniel L.	300 East Sixth, Texarkana 75502	774-3211
U	Rountree, Glen A.	300 East Sixth, Texarkana 75502	774-3211
R	Royal, Jack L.	300 East Sixth, Texarkana 75502	774-3211
OT	Shipp, G. Carl	Post Office Box 5845, Texarkana 75505	214-793-0691
FP	Short, Harold H.	1400 College Drive, Texarkana 75503	214-793-5671
GP	Stringfellow, Jerry B	1205 East 35th, Texarkana 75502	773-6745
#	Teasley, Gerald H.	Texarkana	
GS	Tompkins, W. C., Jr	300 East Sixth, Texarkana 75502	774-3211
	Wilhelm, Frieda	Dallas, Texas	
GS	Wren, Herbert B.	Post Office Box 1409, Texarkana 75504	214-792-7151
RD	Yarbrough, Charles P	Route 8, Box 573, Texarkana 75503 (Res.)	214-794-4744
GS	Young, Mitchell	1406 College Drive, Texarkana 75503	214-792-8264
<b>MISSISSIPPI COUNTY</b>			
OPH	Aviner, Zvi	10th and Highland, Blytheville 72315	763-2649
OBG	Bell, Mary C.	527 North Sixth, Blytheville 72315	763-8890
FP	Biggerstaff, Jerry R	608 West Lee, Osceola 72370	563-3576
IM	Brock, Charles C., Jr	605 North Second, Blytheville 72315	763-1520
U	Campbell, Charles E., Jr	609 Fulton, Blytheville 72315	763-0855
FP	Cole, Cecil R.	519 North Sixth, Blytheville 72315	763-1554
GP	Cook, Joel P.	Post Office Box 626, Osceola 72370	563-3033
GP	Culom, S. R.	700 West Keiser, Osceola 72370	563-6512
FP	Elliott, John O.	Post Office Box 747, Blytheville 72315	763-4548
FP	Fairley, Eldon	Post Office Box 68, Osceola 72370	563-6568
FP	Fenaughty, Francis J.	602 West Union, Osceola 72370	563-3552
GS	Fergus, R. Scott	Professional Building, Osceola 72370	563-3248
GP	Flannigan, Thomas C	Post Office Box 148, Manila 72442	561-3838
R	Gatz, John F., Jr	Osceola Memorial Hospital, Osceola 72370	563-7157
GP	Green, W. O., Jr	Post Office Box 268, Blytheville 72315	763-6802
GS	Harmon, Harvey C.	10th and Highland, Blytheville 72315	763-1307
PTH	Hart, Sybil R.	Post Office Box 312, Blytheville 72316	762-3346
GP	Holcomb, C. E.	511 North Sixth, Blytheville 72315	763-3922
PD	Hovious, John R., III	515 North Sixth, Blytheville 72315	763-5492
	Hubener, Louis F.	Gainesville, Florida	
PTH	Husted, G. Scott	10th and Highland, Blytheville 72315	762-3346
IM	Jacobson, Joseph O.	602 West Union, Osceola 72370	563-6504
IM	Jones, Herbert	Post Office Box 321, Blytheville 72315	763-8032
IM	Jones, Joseph V.	605 North Second, Blytheville 72315	763-1520
RD	Massey, L. D.	4367 East Mallory, Memphis, Tennessee 38117 (Res.)	901-761-9057
OBG	Melton, C. G.	10th and Highland, Blytheville 72315	763-4251
OTO	Moreno, Francisco G.	620 West Walnut, Blytheville 72315	762-5000
FP	Osborne, Merrill J.	10th and Highland, Blytheville 72315	762-5360
GP	Pollock, George D.	608 West Lee, Osceola 72370	563-3576
OBG	Rauls, Stephen R.	10th and Highland, Blytheville 72315	762-1030
GP	Rhodes, R. F.	608 West Lee, Osceola 72370	563-3576



Type of Practice	Member's Name	Address	Telephone Number
GP	Rodman, T N	Post Office Box 260, Leachville 72438	539-6337
GS..	Sellers, Kenneth D	10th and Highland, Blytheville 72315	763-1307
IM	Seton, Margaret P	22 Adams, Wilson 72395	655-8307
GP	Shaneyfelt, E A	Post Office Box 630, Manila 72442	561-4421
GS..	Sims, H C, Jr	525 North Tenth, Blytheville 72315	763-0521
FP	Smith, Ronald D	620 West Walnut, Blytheville 72315	763-4541
OPH	Webb, Jack J.	Post Office Box 547, Blytheville 72315	762-2131
OBG	Workman, W Wayne	527 North Sixth, Blytheville 72315	763-8890

MONROE COUNTY

FP	David, Neylon C	108 West Ash, Brinkley 72021	734-2212
FP	Gates, L T	112 North New York, Brinkley 72021	734-4135
GP	Miya, Robert T	106 North New York, Brinkley 72021	734-4847
GP	Pupsta, Benedict F	Post Office Box 250, Clarendon 72029	747-3321
GP	Stone, Herd E	Post Office Box 305, Holly Grove 72069	462-3393
GP	Walker, Walter L	114 South New Orleans, Brinkley 72021	734-3242
FP	Williams, J P., Jr	127 South New Orleans, Brinkley 72021	734-1331

NEVADA COUNTY

GP	Avery, Charles D	427 East 6th, Prescott 71857	887-2625
GS..	Corbell, Carroll E	Post Office Box 582, Prescott 71857	887-6687
GP	Crow, H Blake	327 East 2nd South, Prescott 71857	887-3846
RD..	Hairston, Glenn G	327 East 3rd South, Prescott 71857 (Res )	887-2155
FP	McGrew, Gary L	107 North 3rd, Gurdon 71743	353-2504
GP	Peeples, George R	305 East Main, Gurdon 71743	353-4422
FP	Portis, Richard P	301 Hale Avenue, Prescott 71857	887-6651
FP	Russell, James T	301 Hale Avenue, Prescott 71857	887-6651
GP	Scarborough, John W	200 East Walnut, Gurdon 71743	353-4486
FP	Young, Michael C.	301 Hale Avenue, Prescott 71857	887-6651

OUACHITA COUNTY

IM	Dedman, J L	415 Hospital Drive, Camden 71701	836-5013
EM	Dobson, Jack T	2026 Parkwood, Fordyce 71742	352-2488
AN	Ellis, Joseph L	Post Office Box 126, Camden 71701	836-7144
GS	Fohn, Charles H	415 Hospital Drive, Camden 71701	836-5013
GP	Guthrie, James	Post Office Box 757, Camden 71701	836-8101
FP	Hout, Judson N	Post Office Box 757, Camden 71701	836-8101
GS	Jameson, John B	Post Office Box 994, Camden 71701	836-5088
FP	Kendall, J R	Post Office Box 757, Camden 71701	836-8101
#	Livingston, Billy B	Camden	
FP	Miller, John H	Post Office Box 851, Hampton 71744	798-4299
FP	Nunnally, Robert H.	Post Office Box 757, Camden 71701	836-8101
IM	Ozment, L V	Post Office Box 757, Camden 71701	836-8101
GYN	Plant, Richard F	Post Office Box 762, Camden 71701	836-4169
FP	Sanders, Cal R	Post Office Box 757, Camden 71701	836-8101
R	Thorne, Arthur E	Post Office Box 797, Camden 71701	836-1221

PHILLIPS COUNTY

GP	Barrow, J H, Jr.	614 Oakland, Helena 72342	338-8622
FP	Bell, L J Patrick	626 Poplar, Helena 72342	338-8163
OPH	Berger, A A	801 Perry, Helena 72342	338-8781
FP	Capes, Bernard	Post Office Box 2398, West Helena 72390	572-2621
FP	Ellis, William A, Jr	603 Porter, Helena 72342	338-3037
GS	Elovitz, Maurice J	Post Office Box 808, Helena 72342	338-7218
GP	Faulkner, Henry N	513 Porter, Helena 72342	338-7401
GP	Kirkman, C M T	1105 Perry, Helena 72342	338-8712
R	Kordan, Bernard	Post Office Box 556, Helena 72342	338-6411
GP	McCarty, Charles P	513 Porter, Helena 72342	338-7401
FP	McCarty, G Eddie, Jr	107 Hickory Hill, Helena 72342	338-8377
GP	McDaniel, Marion A	Post Office Box 757, Helena 72342	338-8308
GER	Miller, Robert D	616 Elm, Helena 72342	338-8531
GP	Paine, William T	661 Oakland, Helena 72342	572-6413
PTH	Patton, Francis M	Post Office Box 511, Helena 72342	338-6411
GP	Pham, Anh N	Post Office Box 88, Portland 71663	737-2221
AN	Vasudevan, Kanaka	133-A Newman Drive, Helena 72342	338-6749
U	Vasudevan, P	133-A Newman Drive, Helena 72342	338-6749
OBG	Whaley, Lance D	671 Oakland, Helena 72342	572-1094
GP	Wise, James E., Jr	Post Office Box 66, Marvell 72366	829-2386

POLK COUNTY

R	Baldwin, Michael H	Wilhelmina Medical Center, Mena 71953	394-6100
EM	Bell, James P	1311 South "I", Fort Smith 72901	441-5011
FP	Fried, David D	Route 3, Box 194, Mena 71953	394-5880
GP	McClard, P Helen	Post Office Box 655, Mount Ida 71957	867-2105
GP	Moore, Walter M	Post Office Box 283, Wickes 71973	385-7710
GP	Redman, Pierre P	513 Mena, Mena 71953	394-2277
GP	Rogers, Henry N	600 West 7th, Mena 71953	394-3345
FP	Stephens, Maurice L	Route 3, Box 168, Mena 71953	394-6300
RD	Wood, John P	1107 Reine, Mena 71953 (Res )	394-3223

POPE COUNTY

FP	Ashcraft, Ted E	Post Office Box 1597, Russellville 72801	968-7170
OTO	Austin, Nathan F	106 South Inglewood, Russellville 72801	968-5261
GS	Bachman, David S	3105 West Main Place, Russellville 72801	968-2345
FP	Barron, William G	809 West Main, Russellville 72801	968-2156
FP	Barton, A Dale	Millard Henry Clinic of Atkins, Atkins 72823	641-2255
OBG	Battles, Larry D	200 North Ouanah, Russellville 72801	968-1011
U	Bell, Robert A	2301 West Main, Russellville 72801	968-3323
IM	Berner, Dennis W	3105 West Main Place, Russellville 72801	968-2345
AN	Birum, Patricia J	Post Office Box 785, Russellville 72801	968-5670
PD	Bost, R Kingsley	3105 West Main Place, Russellville 72801	968-2345
U	Brown, Charles H	2301 West Main, Russellville 72801	968-3323
R	Burgess, James G	Post Office Box 1647, Russellville 72801	968-7930
FP	Carter, James M	3105 West Main Place, Russellville 72801	968-2345
GS	Crumpler, Joe B	3105 West Main Place, Russellville 72801	968-2345
OBG	Dunn, Donald L	200 North Ouanah, Russellville 72801	968-1011
D	Galloway, William W	1602 West Main, Russellville 72801	968-6969
PTH	Harden, V Anthony	Post Office Box 925, Russellville 72801	968-6781
FP	Henry, J Arnold	3105 West Main Place, Russellville 72801	968-2345
IM	Hill, Donald F	3105 West Main Place, Russellville 72801	968-2345
ORS	Honghiran, Ted	2504 West Main, Russellville 72801	968-3200
GS...	Kimball, G H	500 South University, Little Rock 72205	664 8444

Type of Practice	Member's Name	Address	Telephone Number
R	King, John W	Post Office Box 1647, Russellville 72801	968-7930
GP	King, W. Ernest, Jr.	3105 West Main Place, Russellville 72801	968-2345
ORS	Kolb, James M., Jr.	305 Skyline Drive, Russellville 72801	968-2124
OBG	Lahr, Charles H.	3105 West Main Place, Russellville 72801	968-2345
FP	Lane, W. H. Jr.	Post Office Box 324, Dover 72837	331-2828
OPH	Lawrence, Frank M.	Post Office Box 400, Russellville 72801	968-2242
OPH	Lovell, Richard K., Sr	Post Office Box 1107, Russellville 72801	968-7302
FP	Lowrey, Douglas H	Post Office Box 1598, Russellville 72801	968-2156
OPH	Lyford, Joe H	Post Office Box 1107, Russellville 72801	968-7302
GP	Malone, G E	Post Office Box 187, Atkins 72823	641-2992
FP	Mauch, E Jane	3105 West Main Place, Russellville 72801	968-2345
ORS	May, Robert H	305 Skyline Drive, Russellville 72801	968-7711
FP	Meyer, Kelly H.	Post Office Box 1597, Russellville 72801	968-7170
RD	Millard, Roy I.	8101 Cantrell, Little Rock 72207 (Res.)	NF
OPH	Mobley, Max J	Post Office Box 400, Russellville 72801	968-2242
IM	Morgan, Scott I.	Post Office Box 161, Danville 72833	495-7699
GS	Myers, James M.	3105 West Main Place, Russellville 72801	968-2345
FP	New, Kenneth O.	3105 West Main Place, Russellville 72801	968-2345
R	Riley, Don C.	Post Office Box 1647, Russellville 72801	968-7930
PTH	Stolz, Gerald A., Jr.	Post Office Box 925, Russellville 72801	968-6781
FP	Teeter, Stanley D.	3105 West Main Place, Russellville 72801	968-2345
IM	Thurby, W. Robert	3105 West Main Place, Russellville 72801	968-2345
FP	Turner, Finley P., II	Post Office Box 1598, Russellville 72801	968-2156
IM	Wilkins, Charles F., Jr.	3105 West Main Place, Russellville 72801	968-2345
GP	Williams, David M.	Post Office Box 1598, Russellville 72801	968-2156
EM	Young, Sandra S	1800 West Main, Russellville 72801	968-2841
PULASKI COUNTY			
RD	Abbott, William W.	1204 Biscayne Drive, Little Rock 72207 (Res.)	225-2882
IM	Abraham, James H.	10001 Lile Drive, Little Rock 72205	227-8000
NS	Adamez, John H.	750 Medical Towers Building, Little Rock 72205	225-0880
PUD	Adamson, James S	890 Medical Towers Building, Little Rock 72205	224-0110
OPH	Alford, T. Dale	5700 West Markham, Little Rock 72205	664-5100
OBG	Allen, D B., Jr	500 South University, Little Rock 72205	664-4131
OBG	Allen, E. Stewert	1100 North University, Little Rock 72207	664-9191
CDS	Allen, John E., Jr.	1050 Medical Towers Building, Little Rock 72205	227-8300
PS	Allen, Thomas H.	413 North University, Little Rock 72205	664-0900
IM	Amir, Jacob	10001 Lile Drive, Little Rock 72205	227-8000
FP	Anderson, Leslie F.	1310 North Center, Lonoke 72086	676-5123
	Angeles, Jana S.	2207 South Broadway, Little Rock 72206	372-6190
PTH	Araoz, Carlos A.	#1 St. Vincent Circle, # 220, Little Rock 72205	661-4116
OM	Armstrong, Howard M	340 Doctors Park Building, Little Rock 72205	227-7888
PD	Arrington, Robert W	1721 Maryland, Little Rock 72202	370-1444
AN	Ashcraft, Keith E.	500 South University, Little Rock 72205	661-4180
RD	Ault, Charles C	#3 Helen Drive, Sherwood 72116 (Res.)	835-1046
RD	Autry, Daniel H.	1900 North Tyler, Little Rock 72207 (Res.)	664-2332
U	Babaian, Richard J	4301 West Markham, Little Rock 72201	661-5240
GS	Baber, John C., Jr	500 South University, Little Rock 72205	664-2434
GE	Baber, John T.	500 South University, Little Rock 72205	663-9420
P	Backus, Joe T.	21 Bridgeway Road, North Little Rock 72118	771-1500
OT	Bailey, H. A. Ted, Jr.	1200 Medical Towers Building, Little Rock 72205	227-5050
PTH	Baker, Glen F.	4301 West Markham, Little Rock 72201	661-5603
U	Baker, Johnson J.	500 South University, Little Rock 72205	664-4364
IM	Baker, Susan W	11215 Hermitage Road, Little Rock 72211	225-2661
PD	Baldwin, Deane G.	500 South University, Little Rock 72205	664-4044
OBG	Baldwin, Maxwell R.	880 Medical Towers Building, Little Rock 72205	224-5050
FP	Ballard, C E., Jr	4202 South University, Little Rock 72204	562-4838
GYN	Barclay, David L	500 South University, Little Rock 72205	664-8502
GYN	Bard, David S	4301 West Markham, Little Rock 72201	661-5923
FP	Barg, Charles D.	100 Doctors Park Building, Little Rock 72205	224-5220
CD	Barlow, Brian E.	#1 St. Vincent Circle, Suite 450, Little Rock 72205	664-5860
ORS	Barnett, David C	110 Doctors Park Building, Little Rock 72205	227-4150
U	Barnett, Troy F	#1 St. Vincent Circle, #320, Little Rock 72205	664-1762
R	Barnhard, Howard J.	4301 West Markham, Little Rock 72201	661-5740
FP	Barron, Edwin N., Jr	10121 Rodney Parham Road, Little Rock 72207	225-9222
GS	Bauer, Frank M., Jr	500 South University, Little Rock 72205	664-2245
R	Bearden, James R.	1100 Medical Towers Building, Little Rock 72205	227-5240
OPH	Becquet, Norbert J.	115 West 6th, Little Rock 72201	375-4419
FP	Belknap, Melvin L.	1801 Maple, North Little Rock 72114	758-1002
RD	Bennett, Eaton W.	1003 Loretta Lane, Little Rock 72207 (Res.)	225-2478
CD	Bennett, F. A., Jr.	650 Shackelford Road, Little Rock 72211	224-9001
GS	Berry, Frederick B	1060 Medical Towers Building, Little Rock 72205	224-3424
OPH	Berry, Robert L.	1000 Medical Towers Building, Little Rock 72205	227-6980
P	Betts, Charles S.	2024 Arkansas Valley Drive, Little Rock 72212	225-8998
GS	Bevans, David W., Jr.	406 Pershing, North Little Rock 72114	758-1620
OTO	Billie, James D.	330 Medical Towers Building, Little Rock 72205	227-4863
R	Binet, Eugene F.	300 East Roosevelt Road, Little Rock 72206	372-8361
D	Biondo, Raymond V	Post Office Box 921, North Little Rock 72115	758-2588
CD	Bishop, William B.	10001 Lile Drive, Little Rock 72205	227-8000
RD	Black, H. Thurston	10 Armistead Road, Little Rock 72207 (Res.)	664-4759
U	Black, Hal R., Jr.	200 Doctors Park Building, Little Rock 72205	225-9755
GE	Blackshear, Jack L.	650 Medical Towers Building, Little Rock 72205	227-8074
ORS	Blankenship, William F	1100 North University, Little Rock 72207	664-5720
PD	Boellner, Samuel W	300 Medical Towers Building, Little Rock 72205	227-4750
CD	Boger, James E.	Post Office Box 5600, Little Rock 72215	227-7596
NS	Boop, Warren C., Jr.	4301 West Markham, Slot 507, Little Rock 72201	661-5270
N	Bornhofen, John H.	300 Medical Towers Building, Little Rock 72205	227-4750
PD	Bost, Roger B.	4301 West Markham, Slot 599, Little Rock 72201	661-5260
NM	Boyd, Charles M.	4301 West Markham, Little Rock 72201	661-5760
U	Bradburn, Curry B.	200 Doctors Park Building, Little Rock 72205	225-9755
OPH	Brainard, Jay O.	405 North University, Little Rock 72205	664-5354
P	Brandt, Rosemary C	500 South University, Little Rock 72205	664-8444
R	Brenner, George H., Jr	1100 Medical Towers Building, Little Rock 72205	227-2180
D	Bressinck, Renie E.	950 Medical Towers Building, Little Rock 72205	227-8422
NEP	Brewer, Thomas E.	5326 West Markham, Little Rock 72205	664-4653
RD	Briggs, Barnett P.	2805 Foxcroft Square, #403, Little Rock 72207 (Res.)	225-1203
IM	Brinkley, Roy A.	220 Doctors Park Building, Little Rock 72205	227-6350
OTO	Brizolara, A. J	500 South University, Little Rock 72205	664-4381
P	Broach, R. Fred	12115 Hinson Road, Little Rock 72212	227-0680
RD	Brown, Martha M.	(Address unknown)	
GE	Browning, Donald G	409 North University, Little Rock 72205	664-6980
AN	Browning, Stanley K	10825 Financial Centre Parkway, Little Rock 72211	227-7590
ADM	Bruce, Thomas A	4301 West Markham, Little Rock 72201	661-5350
RD	Buchanan, Francis R.	44 Pine Manor, Little Rock 72207 (Res.)	664-6557
PD	Buchanan, Gilbert A	500 South University, Little Rock 72205	664-4117
GS	Buchman, Joseph A	500 South University, Little Rock 72205	664-9116
GS	Buchman, J. K	500 South University, Little Rock 72205	664-9116



Type of Practice	Member's Name	Address	Telephone Number
IM	Bucolo, Anthony P	1000 North University, Little Rock 72207	661-0060
FP	Bulford, Joe Lee	1801 Maple, North Little Rock 72114	758-1002
AN	Bumpas, Joe H	500 South University, Little Rock 72205	664-4532
PTH	Burger, Robert A	9600 West 12th, Little Rock 72205	227-2888
TS	Burnett, Hugh F	990 Medical Towers Building, Little Rock 72205	227-9080
FP	Burnham, William W	1310 Cantrell, Little Rock 72201	375-5381
FP	Burrow, Dennis R	550 Edgewood, Maumelle 72118	851-2170
#	Busby, John V	Little Rock	
RD	Byrd, Lucas M, Jr	36 Lakeshore Drive, Little Rock 72204 (Res.)	565-6046
OPH	Calcote, Robert A	3629 McCain Boulevard, North Little Rock 72116	771-1166
GS	Caldwell, Fred T., Jr	4301 West Markham, Little Rock 72201	661-5509
FP	Calhoon, J. Dale	Post Office Box 805, Jacksonville 72076	982-4551
R	Calhoun, Joseph D	500 South University, Little Rock 72205	661-3671
FP	Calhoun, Richard A	330 Doctors Park Building, Little Rock 72205	227-6363
TS	Campbell, Gilbert S	4301 West Markham, Little Rock 72201	661-6177
R	Campbell, James W	500 South University, Little Rock 72205	664-3914
A	Caplinger, Kelsy J	11215 Hermitage Road, Little Rock 72211	224-1156
RD	Carnahan, Robert G	12660 Rivercrest Drive, Little Rock 72212 (Res.)	224-2274
FP	Carson, Layne E	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext 585
FP	Carter, Jerry L	12361 Hinson Road, Little Rock 72212	224-2875
R	Caruthers, Samuel B., Jr	1100 Medical Towers Building, Little Rock 72205	227-2771
GS	Casali, Robert E	200 Medical Towers Building, Little Rock 72205	224-5666
RD	Cazort, Alan G	5117 Edgewood, Little Rock 72207 (Res.)	663-3623
ORS	Chakales, Harold H	405 North University, Little Rock 72205	664-7005
OPH	Chandler, Billy M	406 Pershing, North Little Rock 72114	758-1651
FP	Chapman, Jerry C	Post Office Box M, Cabot 72023	982-0426
OPH	Chappell, Carol W	#5 St. Vincent Circle, Little Rock 72205	661-1123
RD	Chappell, Ewin S	400 North University, Little Rock 72205 (Res.)	663-4747
FP	Cheairs, David B	330 Doctors Park Building, Little Rock 72205	227-6363
R	Chisholm, Daniel P	500 South University, Little Rock 72205	664-3915
PD	Choate, Robert B	516 Pershing, North Little Rock 72114	758-1530
RD	Christeson, William W	7 Sunset Circle, Little Rock 72207 (Res.)	666-0566
ORS	Christian, John D	1100 North University, Little Rock 72207	664-7710
FP	Chudy, Amai	1801 Maple, North Little Rock 72114	758-1002
FP	Church, Beresford L	Post Office Box 246, North Little Rock 72115	753-3130
GYN	Church, Marion M	410 Pershing, North Little Rock 72114	758-1029
AN	Clark, Richard B	4301 West Markham, Little Rock 72201	661-6117
GE	Clift, Steven A	2000 Fendley Drive, North Little Rock 72114	758-2041
OPH	Clifton, Ernest C "Cliff"	516 Scott, Little Rock 72201	374-6338
FP	Cobb, Jock S	North Hills Family Clinic, Sherwood 72116	835-7238
R	Cockrill, H. Howard, Jr	500 South University, Little Rock 72205	664-3914
OTO	Colclasure, Joe B	1200 Medical Towers Building, Little Rock 72205	227-5050
RD	Cook, Raymond C	5500 Sherwood, Little Rock 72207 (Res.)	663-1550
P	Cooper, Ruth Anne	5726 Stonewall Road, Little Rock 72207 (Res.)	664-9800
OBG	Cornell, Paul J	500 South University, Little Rock 72205	664-2277
FP	Cornett, James K	5326 West Markham, Little Rock 72205	664-6603
OPH	Cosgrove, K. W., Jr	630 Medical Towers Building, Little Rock 72205	224-0400
RD	Craig, Marion S	300 Beckwood Road, Little Rock 72205 (Res.)	666-1567
GYN	Crews, J. Travis	500 South University, Little Rock 72205	664-8505
CRS	Crocker, Charles H	500 South University, Little Rock 72205	664-1272
OPH	Cross, J. B	500 South University, Little Rock 72205	666-0126
ORS	Crow, Joe W	2003 Fendley Drive, North Little Rock 72114	771-1600
CDS	Crow, R. Lewis	600 Medical Towers Building, Little Rock 72205	227-9434
R	Dalrymple, Glenn V	1100 Medical Towers Building, Little Rock 72205	771-3350
FP	Daugherty, Joe D	Post Office Box 336, Jacksonville 72076	982-0576
FP	Daugherty, John L	Post Office Box 336, Jacksonville 72076	982-0576
GS	Dean, Gilbert O	321 Donaghey Building, Little Rock 72201	372-3661
OPH	Deer, Philip J., Jr	8500 West Markham, Little Rock 72205	224-4701
RD	Dennis, James L	824 Ridgecrest Drive, Little Rock 72205 (Res.)	663-2447
N	Denson, William D	2003 Fendley Drive, North Little Rock 72114	753-5462
OBG	DesLauners, S. Kileen	880 Medical Towers Building, Little Rock 72205	224-5050
OTO	Dickins, John R. E	1200 Medical Towers Building, Little Rock 72205	227-5050
NS	Dickins, Robert D., Jr	750 Medical Towers Building, Little Rock 72205	225-0880
ORS	Dickson, D. Bud	500 South University, Little Rock 72205	663-4163
FP	Dillard, Daniel C	4202 South University, Little Rock 72204	562-4838
R	Diner, Wilma C	4301 West Markham, Slot 556, Little Rock 72201	661-5740
R	Dodd, Doyne	1100 Medical Towers Building, Little Rock 72205	227-5240
RD	Dodge, Eva F	Box 1681 (Worthen Bank), Little Rock 72203 (Res.)	NF
ORS	Dornenburg, Peter R	#1 St. Vincent Circle, #210, Little Rock 72205	661-0350
P	Douglas, Warren M	260 Medical Towers Building, Little Rock 72205	224-2447
U	Downs, Ralph A	#1 St. Vincent Circle, Suite 320, Little Rock 72205	664-1762
PDC	Dungan, W. T	804 Wollie, Little Rock 72201	370-1479
FP	Durham, James W	Post Office Box 805, Jacksonville 72076	982-4551
ORS	Dwyer, Anthony P	4301 West Markham, Little Rock 72201	661-5251
D	Dwyer, Gregory A	500 South University, Little Rock 72205	664-4161
RD	Easley, Edgar J	220 Linwood Court, Little Rock 72205 (Res.)	663-5086
ORS	Easter, Rex M.	601 North University, Little Rock 72205	666-0144
P	Eckart, Emile P	4313 West Markham, Little Rock 72201	664-4500
AN	Edge, Otis H	500 South University, Little Rock 72205	664-8489
GP	Farmer, Joseph F	11125 Arcade Drive, Little Rock 72212	225-2594
FP	Farris, Guy R	6213 Lee Avenue, Little Rock 72205	664-2115
GE	Fernandez, Agustin	2000 Fendley Drive, North Little Rock 72114	758-2041
R	Ferris, Ernest J	4301 West Markham, Slot 556, Little Rock 72201	661-5740
FP	Fewell, Ronald D.	Post Office 459, Jacksonville 72076	982-2141
GS	Fielder, Charles R	406 Pershing, North Little Rock 72114	758-1620
U	Finan, Barre F	200 Doctors Park Building, Little Rock 72205	225-9755
R	Fincher, Robert L	1100 Medical Towers Building, Little Rock 72205	227-5240
U	Finkbeiner, Alex E	4301 West Markham, Little Rock 72201	661-5240
A	Fiser, P. Martin	Post Office Box 5675, Little Rock 72215	227-5210
PD	Fiser, Robert H., Jr	1721 Maryland, Little Rock 72202	371-9192
GP	Fitzgibbon, Carney, Jr	410 South Martin, Little Rock 72205 (Res.)	666-8861
PD	Fitzhugh, A. S.	4815 West Markham, Little Rock 72205	661-2242
FP	Flack, James V	424 North University, Little Rock 72205	664-4810
NS	Flanigan, Stevenson	4301 West Markham, Slot 507, Little Rock 72201	661-5270
RD	Fletcher, Elizabeth D	Quappaw Towers Apt #4-K, Little Rock 72202 (Res.)	372-6902
NS	Fletcher, Thomas M	500 South University, Little Rock 72205	664-3021
HEM	Flippin, Tony A	500 South University, Little Rock 72205	664-4820
PUD	Florez, James P	#1 Lile Court, Little Rock 72205	224-6294
GYN	Floyd, Bill G	210 Doctors Park Building, Little Rock 72205	224-6770
PTH	Fody, Edward P	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext 425
U	Fraiser, Lacy P	200 Doctors Park Building, Little Rock 72205	225-9755
A	France, Gene L	11215 Hermitage Road, Little Rock 72211	224-1156
PD	Fraser, Eric A	516 Pershing, North Little Rock 72114	758-1530
OBG	Fraser, James H., Jr	#1 Lile Court, Little Rock 72205	225-1485
OBG	Fuller, C. Dale	1924 Fendley Drive, North Little Rock 72114	758-3774
OPH	Fulmer, John M	5410 West Markham, Little Rock 72205	664-3142
CD	Galbraith, Jo Etta	#1 St. Vincent Circle, #450, Little Rock 72205	664-5860

Type of Practice	Member's Name	Address	Telephone Number
N	Galbraith, Robert C	300 Medical Towers Building, Little Rock 72205	227-4750
OTO	Gardner, Guy F.	330 Medical Towers Building, Little Rock 72205	227-4863
PS	Gay, Ellery C., Jr	#2 Lile Court, Little Rock 72205	224-1044
R	Gettys, Joseph M., Jr	1100 Medical Towers Building, Little Rock 72205	227-5240
N	Gibson, Gordon L	300 Medical Towers Building, Little Rock 72205	227-4750
PUD	Giglia, Anthony R	1000 North University, Little Rock 72207	666-5311
NS	Giles, Wilbur M.	750 Medical Towers Building, Little Rock 72205	225-0880
GYN	Gillespie, A. Tharp	500 South University, Little Rock 72205	664-9555
AN	Glenn, Wayne B	2605 Hidden Valley, Little Rock 72212 (Res.)	225-4858
AN	Glidden, Michael L	500 South University, Little Rock 72205	664-8489
END	Glover, Lawson E.	10001 Lile Drive, Little Rock 72205	227-8000
R	Glover, W. Clyde	1100 Medical Towers Building, Little Rock 72205	227-5240
PDS	Golladay, E. Stevers	804 Wolfe, Little Rock 72201	370-1446
P	Good, Henry H	#1 St Vincent Circle, #340, Little Rock 72205	664-1060
RD	Gordon, Vida H.	9900 Treasure Hill, Little Rock 72205 (Res.)	225-4452
PD	Gosser, Bob L	516 Pershing, North Little Rock 72114	758-1530
CD	Goza, George M., Jr	500 South University, Little Rock 72205	664-9535
GS	Graham, G. Grimsley	990 Medical Towers Building, Little Rock 72205	227-9080
RD	Gray, Edwin F.	11901 Fairway Drive, Little Rock 72212 (Res.)	224-0220
OBG	Green, William O	1924 Fendley Drive, North Little Rock 72114	758-3774
GE	Greenway, C. Don	409 North University, Little Rock 72205	664-6980
RD	Greutter, John E.	2112 North Beechwood, Little Rock 72207 (Res.)	663-1547
ORS	Grimes, H. Austin	Post Office Box 5270, Little Rock 72215	224-6900
RD	Growdon, James H	17 Wingate, Little Rock 72205 (Res.)	225-2484
FP	Gustavus, John L	2007 Fendley Drive, North Little Rock 72114	758-9350
GYN	Hagler, James L.	500 South University, Little Rock 72205	664-5330
IM	Hall, A. D.	500 South University, Little Rock 72205	664-0027
U	Hall, A. David	500 South University, Little Rock 72205	664-4364
PD	Hall, R. Whit	Post Office Box 5597, Little Rock 72215	227-6727
	Hall, Ronald R.	Webster, Texas	
PUD	Hampton, John R	500 South University, Little Rock 72205	661-9393
OPH	Hankins, Edwin, III	500 South University, Little Rock 72205	666-0311
OPH	Hardberger, R. E.	#1 St Vincent Circle, #120, Little Rock 72205	661-0450
GE	Hardin, Ronald D	960 Medical Towers Building, Little Rock 72205	224-9100
AN	Harger, C. Harold	10825 Financial Centre Parkway, Little Rock 72211	227-7590
CD	Hargrove, Joe L.	5326 West Markham, Little Rock 72205	664-0941
IM	Harper, Ernest H.	400 Pershing, North Little Rock 72114	227-8000
FP	Harper, Gary E.	123 Pearl, Little Rock 72205	375-3000
P	Harrendorf, Cagle	500 South University, Little Rock 72205	663-6346
R	Harris, D. R.	Post Office Box 7509, Little Rock 72207	664-8573
#	Harris, Michael N	North Little Rock	
N	Harris, Ruben M.	4313 West Markham, Little Rock 72205	664-4500
P	Harris, T. Stuart	21 Bridgeway Road, North Little Rock 72118	771-1500
NM	Harris, William T	500 South University, Little Rock 72205	664-3914
P	Harrison, A. Vale	930 Medical Towers Building, Little Rock 72205	225-7433
FP	Harrison, Roy E.	8824 Chicot Road, Little Rock 72209	562-8600
OBG	Harrison, William E	500 South University, Little Rock 72205	664-9232
P	Hawley, Harold B.	11500 Rodney Parham, #15, Little Rock 72212	225-3156
GS	Hayden, William F.	500 South University, Little Rock 72205	664-2434
PS	Hayes, J. Harry, Jr	#1 St Vincent Circle, Suite 310, Little Rock 72205	666-2811
FP	Hayes, Richard L.	Post Office Box 805, Jacksonville 72076	982-4551
R	Haynes, W. Ducote	500 South University, Little Rock 72205	664-8573
U	Headstream, James W	500 South University, Little Rock 72205	664-4364
P	Hearnberger, Henry G., Jr	4313 West Markham, Little Rock 72205	664-4500
FP	Hedges, Harold H.	424 North University, Little Rock 72205	664-4810
A	Hefley, Bill F.	Post Office Box 5675, Little Rock 72215	227-5210
FP	Hendren, Michael C	280 Doctors Park Building, Little Rock 72205	227-6226
P	Henker, Fred O., III	4301 West Markham, Little Rock 72201	661-5266
OBG	Henry, C. Reid, Jr	500 South University, Little Rock 72205	664-4191
GYN	Henry, Charles R., Sr	500 South University, Little Rock 72205	664-4191
N	Henry, G. Morrison	300 Medical Towers Building, Little Rock 72205	227-4750
OPH	Henry, J. Forrest, Jr.	516 Scott, Little Rock 72201	374-6338
OPH	Henry, Richard Y.	312 Pershing, North Little Rock 72114	758-7627
PD	Henry, Robert L.	500 South University, Little Rock 72205	664-4044
IM	Herron, Jerry M.	#1 Lile Court, Little Rock 72205	224-6294
AN	Hickey, Joseph P.	6925 Kingwood Road, Little Rock 72207 (Res.)	666-8865
CD	Hicks, David C.	Post Office Box 5600, Little Rock 72215	227-7596
AN	Hill, Howell V.	Post Office Box 55260, Little Rock 72205	227-7590
CDS	Hoffmann, Thomas H	200 Medical Towers Building, Little Rock 72205	224-5666
R	Holder, John C.	4301 West Markham, Slot 556, Little Rock 72201	661-5740
FP	Holland, Jay D.	4202 South University, Little Rock 72204	562-4838
RD	Hollenberg, Henry G.	#7 Longfellow Circle, Little Rock 72207 (Res.)	663-7767
RD	Hollis, Nicholas T.	8701 Riley Drive, Little Rock 72205 (Res.)	227-8677
FP	Holmes, Harlan C.	9601 Lile Drive, Little Rock 72205	225-6123
RD	Holt, L. Gordon	5700 North Country Club, Little Rock 72207 (Res.)	663-8907
RHU	Holt, Stephen D.	10001 Lile Drive, Little Rock 72205	227-8000
R	Holton, Jerry C.	500 South University, Little Rock 72205	664-3914
PTH	Hough, Aubrey J., Jr	4301 West Markham, Little Rock 72201	661-5170
P	Howard, John G.	9601 Lile Drive, Little Rock 72205	227-6370
N	Howell, C. S. "Buddy", Jr	300 Medical Towers Building, Little Rock 72205	227-4750
OBG	Howell, Marsha T.	310 Doctors Park Building, Little Rock 72205	224-4738
NEP	Hughes, Ronald D.	500 South University, Little Rock 72205	664-9881
ORS	Hundley, John M.	412 Cross, Little Rock 72201	375-5338
GS	Hunton, David W.	320 Doctors Park Building, Little Rock 72205	227-7200
ORS	Hutson, Harold G.	110 Doctors Park Building, Little Rock 72205	227-4150
IM	Jackson, J. Presley	10001 Lile Drive, Little Rock 72205	227-8000
FP	Jackson, Morris A.	1304 Wright Avenue, Little Rock 72206	374-7940
D	Jansen, G. Thomas	500 South University, Little Rock 72205	664-4161
PD	Jefferson, Thomas T	Post Office Box 5597, Little Rock 72215	227-6727
PTH	Jimenez, Jorge F.	804 Wolfe, Little Rock 72201	370-1307
PD	Johnson, Anthony D	500 South University, Little Rock 72205	664-4117
PTH	Johnson, B. Richard	9600 West 12th, Little Rock 72205	227-2888
CD	Johnson, Ben D.	500 South University, Little Rock 72205	664-9535
IM	Johnson, Henry D.	500 South University, Little Rock 72205	664-4171
PD	Johnson, Paulette S.	Post Office Box 5299, Jacksonville 72076	982-7567
ORS	Johnson, Philip H.	Post Office Box 5270, Little Rock 72215	224-6900
R	Johnston, Dale E.	500 South University, Little Rock 72205	664-3914
A	Johnston, Thomas G	P. O. Box 5000, Little Rock 72205	664-3904
AN	Jones, Garry L.	500 South University, Little Rock 72205	664-8489
GS	Jones, John C.	500 South University, Little Rock 72205	664-4747
ORS	Jones, Kenneth G.	Post Office Box 5270, Little Rock 72215	224-6900
GS	Jones, Robert D.	500 South University, Little Rock 72205	664-4747
D	Jones, William N.	500 South University, Little Rock 72205	664-0418
NS	Jordan, F. Richard	520 Pershing, North Little Rock 72114	753-5340
NS	Jouett, W. Ray	750 Medical Towers Building, Little Rock 72205	225-0880
R	Joyce, John W.	1100 Medical Towers Building, Little Rock 72205	227-5240
RD	Junkin, Ruth H.	1900 Eastern Avenue, Newport 72112 (Res.)	523-3238



Type of Practice	Member's Name	Address	Telephone Number
AN	Kaemmerling, Raymond E	500 South University, Little Rock 72205	664-8489
IM	Kahn, Alfred, Jr.	1300 West 6th, Little Rock 72201	374-5588
#	Kalderon, Albert E	Little Rock	
CD	Kane, James J	#1 St. Vincent Circle, #450, Little Rock 72205	664-5860
PD	Keathley, Susan A	Post Office Box 5597, Little Rock 72215	227-6727
D	Keeran, Michael G	500 South University, Little Rock 72205	664-4161
OBG	Keller, Alford W	1924 Fendley Drive, North Little Rock 72114	758-3774
FP	Kennedy, Charles H	3115 JFK Boulevard, North Little Rock 72116	753-9464
PD	Kennedy, H. Frazier	500 South University, Little Rock 72205	664-4117
GS	King, Errol G	1304-B Wright, Little Rock 72206	376-4020
R	King, Michael T	1100 Medical Towers Building, Little Rock 72205	227-5240
A	Kittler, Fred J.	Post Office Box 5675, Little Rock 72215	227-5210
CD	Kizzlar, J. C.	10001 Lile Drive, Little Rock 72205	227-8000
P	Koehler, Thomas R	4313 West Markham, Little Rock 72205	664-4500
IM	Kohler, Peter O	4301 West Markham, Slot 640, Little Rock 72201	661-5160
RD	Kolb, Agnes, J.	30 Lenon Drive, Little Rock 72207 (Res.)	663-7930
P	Kolb, W. Payton	230 Medical Towers Building, Little Rock 72205	225-0887
RHU	Kovaleski, Thomas M.	10001 Lile Drive, Little Rock 72205	227-8000
RD	Kozberg, Oscar	4 Windsor Court, Little Rock 72212 (Res.)	225-7709
GYN	Kreth, Kay M	417 North University, Little Rock 72205	663-9441
TS	Krishnan, Bhaktan	#1 St. Vincent Circle, #170, Little Rock 72205	663-2163
P	Krulin, Gregory S	#1 St. Vincent Circle, #340, Little Rock 72205	664-1060
*IM	Kulback, Pamela K. P.	4301 West Markham, Little Rock 72201	661-5160
CD	Kumpuris, Andrew G	415 North University, Little Rock 72205	664-6841
GE	Kumpuris, D. Dean	417 North University, Little Rock 72205	666-0249
GS	Kumpuris, Frank G	415 North University, Little Rock 72205	664-1521
OBG	Kwee, James J	#1 Lile Court, Little Rock 72205	224-5500
OTO	Kyser, James F	900 Medical Towers Building, Little Rock 72205	227-8501
OPH	Landers, James H	500 South University, Little Rock 72205	664-1104
R	Landgren, Robert C	500 South University, Little Rock 72205	664-3914
R	Lane, John W	1100 Medical Towers Building, Little Rock 72205	227-2180
GS	Lang, Nicholas P	4301 West Markham, Little Rock 72201	661-6186
R	Langston, Harold D	Post Office Box 56202, Little Rock 72215	664-8573
FP	Laurenzana, Donald A	3423 Pike, North Little Rock 72118	753-3661
RD	Lawson, Mason G	200 Ridgeway, Little Rock 72205 (Res.)	663-4834
	Lee, J. Fred	Minden, Louisiana	
PS	Lehmberg, Robert W	11219 Hermitage Road, Little Rock 72211	227-6063
EM	Leibovich, Marvin	9600 West 12th, Emer. Dept., Little Rock 72205	227-2300
OTO	Leipzig, Bruce	4301 West Markham, Little Rock 72201	661-5140
RHU	Leonard, Donald G	#1 St. Vincent Circle, #150, Little Rock 72205	664-2466
OBG	Leou, Frank J	1070 Medical Towers Building, Little Rock 72205	224-1080
PM	Lepore, Diane G	515 Medical Arts Building, Little Rock 72202	370-7257
RD	Lester, Joe K	8 River Ridge Road, Little Rock 72207 (Res.)	225-2974
PD	Levin, Frederick R	500 South University, Little Rock 72205	664-4044
CD	Lewis, W. Sexton	700 Medical Towers Building, Little Rock 72205	227-4434
R	Lile, Henry A	1100 Medical Towers Building, Little Rock 72205	227-5240
TS	Lincoln, Ben M.	5326 West Markham, Little Rock 72205	664-6705
ORS	Lipke, Jay M.	601 North University, Little Rock 72205	666-0144
CDS	Loebl, Edward C.	250 Medical Towers Building, Little Rock 72205	227-4787
U	Logan, Charles W	500 South University, Little Rock 72205	664-4364
IM	Love, Tommy L., Jr	#1 St. Vincent Circle, #350, Little Rock 72205	664-5932
PD	Lowe, Betty A.	804 Wolfe, Little Rock 72201	370-1401
N	Lucy, Dennis D., Jr	4301 West Markham, Little Rock 72201	661-5135
GS	Ludwig, Frank R	406 Pershing, North Little Rock 72114	758-1620
GS	Lyons, Virgle E., Jr	500 South University, Little Rock 72205	664-2434
PTH	Malak, F. A.	Post Office Box 5274, Little Rock 72215	227-5936
FP	Mallory, George L	4511 Lynch Drive, North Little Rock 72117	945-9271
FP	Mann, R. Jerry	6924 Geyer Springs Road, Little Rock 72209	562-1463
PTH	Markland, Gary S	9601 Interstate 630, Exit 7, Little Rock 72205	227-2888
OBG	Marks, Stephen R	2000 Fendley Drive, North Little Rock 72114	758-9251
NS	Mason, J. Zachary	750 Medical Towers Building, Little Rock 72205	225-0880
PUD	Mason, William L	500 South University, Little Rock 72205	661-9393
RD	Massey, C. G.	#9 Racquet Court, Little Rock 72207 (Res.)	225-6444
A	Matthews, Joseph W	Post Office Box 5675, Little Rock 72215	227-5210
P	Matthews, Robert R	4301 West Markham, Slot 568, Little Rock 72201	661-5903
R	McAdoo, Hosea W., Jr	1100 Medical Towers Building, Little Rock 72205	227-5240
ORS	McCarthy, Richard E	804 Wolfe, Little Rock 72201	370-1468
PTH	McConnell, John D	500 South University, Little Rock 72205	664-2593
GS	McCracken, John D	970 Medical Towers Building, Little Rock 72205	227-8180
FP	McCrary, George A	Post Office Box 805, Jacksonville 72076	982-4551
R	McDonald, James E	500 South University, Little Rock 72205	664-3914
FP	McGowan, R. J., Jr	424 North University, Little Rock 72205	664-4810
OTO	McGrew, Robert N	1200 Medical Towers Building, Little Rock 72205	227-5050
ORS	McKenzie, Charles N	802 North University, Little Rock 72205	666-0251
OBG	McKnight, C. Allen	800 Medical Towers Building, Little Rock 72205	227-5885
RD	McMillin, F. Lamar, Sr	337 Crystal Court, Little Rock 72205 (Res.)	663-3783
OPH	McNair, James R	5700 West Markham, Little Rock 72205	664-5100
CD	Meacham, Donald F	650 Shackelford Road, Little Rock 72211	224-9001
AN	Means, Paul N	10825 Financial Centre Parkway, Little Rock 72211	225-7590
IM	Mettrailer, James A	1100 North University, Little Rock 72207	664-1540
N	Miles, David A	500 South University, Little Rock 72205	664-3018
NEP	Miller, C. Lindsey	350 Medical Towers Building, Little Rock 72205	224-2141
FP	Miller, Forrest B	4202 South University, Little Rock 72204	562-4838
IM	Miller, Raymond P., Sr	5918 Lee, Little Rock 72205	664-2500
	Miller, Timothy T.	Chicago, Illinois	
OTO	Milner, E. L.	500 South University, Little Rock 72205	664-4318
ADM	Mitchell, George K.	Post Office Box 2181, Little Rock 72203	378-2133
PDS	Mollitt, Daniel L.	804 Wolfe, Little Rock 72201	370-1450
N	Money, Wanda D	2003 Fendley Drive, North Little Rock 72114	753-5462
D	Moore, Burton A	500 South University, Little Rock 72205	664-4161
U	Moore, J. Malcolm	500 South University, Little Rock 72205	664-4364
GS	Moore, Rex N	Post Office Box 459, Jacksonville 72076	982-2141
IM	Moore, Robert B	5918 Lee, Little Rock 72205	664-2500
GYN	Morgan, Frank E	410 Pershing, North Little Rock 72114	758-1022
TS	Morris, W. Dale	8500 West Markham, Little Rock 72205	224-1950
GER	Morris, Woodbridge E.	310 Ridgeway, Little Rock 72205 (Res.)	663-6551
FP	Morrison, Doyle H	3807 McCain Park Drive, North Little Rock 72116	758-8981
R	Morrison, James R	500 South University, Little Rock 72205	664-3914
IM	Morse, James C	500 South University, Little Rock 72205	661-9740
GE	Morton, William J.	10001 Lile Drive, Little Rock 72205	227-8000
ORS	Mulhollan, James S.	#1 St. Vincent Circle, #410, Little Rock 72205	664-6334
GP	Murphy, James E.	520 Pershing, North Little Rock 72114	758-1640
P	Murphy, Randolph	708 West Second, Little Rock 72201	371-2214
GP	Napper, George S	513 Main, North Little Rock 72114	375-2433
R	Nelson, Alvah J., III	500 South University, Little Rock 72205	664-8573
ORS	Nelson, Carl L.	4301 West Markham, Slot 531, Little Rock 72201	661-5505
PM	Nelson, Robert D	1120 Marshall, Little Rock 72202	370-7257
R	Newbern, David H	500 South University, Little Rock 72205	664-3914

Type of Practice	Member's Name	Address	Telephone Number
RD	Nisbett, James M	517 East 7th, Little Rock 72202 (Res )	375-2252
ORS	Nix, Richard A	Post Office Box 5270, Little Rock 72215	224-6900
FP	Nolen, James E	Post Office Box 459, Jacksonville 72076	982-2141
R	Norton, George A	500 South University, Little Rock 72205	664-3914
R	Norton, Joseph A	8570 Cantrell, Little Rock 72207 (Res.)	661-3671
PH	Oates, Gordon P	1700 West 13th, Little Rock 72202	376-4511
R	Oddson, Terrence A	500 South University, Little Rock 72205	664-3914
GP	Ogden, Mahlon D	4601 Woodlawn, Little Rock 72205	664-0769
P	Oglesby, Walter R	290 Valley Club Circle, Little Rock 72212 (Res )	224-6426
ADM	O'Neal, Walter H	9601 Interstate 630, Little Rock 72205	227-2672
GS	Osam, Patrick N	320 Doctors Park Building, Little Rock 72205	227-7200
GS	Ozment, Kerry L	500 South University, Little Rock 72205	663-4020
	Padberg, Frank T	55 East Erie, Chicago, Illinois 60611	312-664-4050
HEM	Padilla, Fernando	#1 St. Vincent Circle, #110, Little Rock 72205	664-6600
AN	Panuska, Jerry	10825 Financial Centre Parkway, Little Rock 72211	227-7590
OT	Pappas, James J	1200 Medical Towers Building, Little Rock 72205	227-5050
OPH	Parker, J. Mayne	500 South University, Little Rock 72205	666-9632
GS	Parnell, Clifton L, III	8500 West Markham, Little Rock 72205	224-1950
PD	Paulus, Thomas E	500 South University, Little Rock 72205	664-4044
ORS	Peeples, R. Earl	110 Doctors Park Building, Little Rock 72205	227-4150
CHP	Peters, John E	4301 West Markham, Little Rock 72201	661-5800
END	Peters, Phillip J	10001 Lile Drive, Little Rock 72205	227-8000
OPH	Petursson, Gissur J	4301 West Markham, Little Rock 72201	661-5150
RD	Phillips, Bert L	4525 Rosemont Drive, North Little Rock 72116 (Res )	753-6057
OBG	Phillips, Charles E	800 Medical Towers Building, Little Rock 72205	227-5885
PUD	Phillips, James R	890 Medical Towers Building, Little Rock 72205	224-0110
GP	Phipps, W. E	Post Office Box 13, North Little Rock 72115	374-4821
GS	Pike, John D	500 South University, Little Rock 72205	664-4321
FP	Pledger, Norman R	3629 McCain Boulevard, North Little Rock 72116	758-2644
AN	Pollard, Arlee E	500 South University, Little Rock 72205	661-3578
#	Pool, Chalmers S	Little Rock	
PS	Pope, Norton A	850 Medical Towers Building, Little Rock 72205	227-6464
OTO	Potts, Jerry L	3629 McCain Boulevard, North Little Rock 72116	753-8444
GE	Power, Robert C	409 North University, Little Rock 72205	664-6980
NM	Prather, Jerry L	500 South University, Little Rock 72205	664-3914
CD	Price, Ben O	500 South University, Little Rock 72205	664-9535
RD	Pringos, Andrew A	Post Office Box 2900, Little Rock 72203 (Res.)	663-6230
RD	Proctor, Clark B	63 Sherrill Heights, Little Rock 72202 (Res )	663-5269
FP	Purdy, Harold D "Bud"	6924 Geyer Springs Road, Little Rock 72209	562-1463
IM	Pyle, Hoyte R, Jr	5918 Lee, Little Rock 72205	664-2500
N	Ragsdill, Mary L	2003 Fendley Drive, North Little Rock 72114	753-5462
CDS	Ransom, John M	780 Medical Towers Building, Little Rock 72205	224-1508
D	Raque, Carl J	500 South University, Little Rock 72205	666-5451
IM	Rasch, James R	10001 Lile Drive, Little Rock 72205	227-8000
TS	Read, Raymond C	300 East Roosevelt Road, Little Rock 72206	372-8361
PUD	Rector, Nancy F	890 Medical Towers Building, Little Rock 72205	224-0110
NS	Reding, David L	750 Medical Towers Building, Little Rock 72205	225-0880
U	Redman, John F	4301 West Markham, Slot 540, Little Rock 72201	661-5240
OBG	Reed, Ewing C, Jr	300 Doctors Park Building, Little Rock 72205	227-6377
P	Reese, William G	4301 West Markham, Slot 506, Little Rock 72201	661-5266
R	Regnier, George G	500 South University, Little Rock 72205	664-3914
U	Rice, Peyton E	2000 Fendley Drive, North Little Rock 72114	753-4593
CD	Richards, Mary K	#1 St. Vincent Circle, #140, Little Rock 72205	666-5000
#	Richardson, Robert E	Little Rock	
FP	Riddle, John F, Jr	8824 Chicot Road, Little Rock 72209	562-8600
R	Ridout, Robert G	4301 West Markham, Little Rock 72201	661-5000
FP	Riegler, N. W, Jr	1024 Scott, Little Rock 72202	375-3326
CDS	Riggs, Orval E	#1 St. Vincent Circle, #160, Little Rock 72205	666-2001
FP	Riley, William H	4202 South University, Little Rock 72204	562-4838
CHP	Ringdahl, Irving C	804 Wolfe, Little Rock 72201	374-2222
OPH	Roberson, Michael C	623 Woodlane, Little Rock 72201	374-6491
GP	Robinson, Paul F	Post Office Box 66, Redfield 72132	397-2261
GYN	Rodgers, C. Dudley	500 South University, Little Rock 72205	664-4131
FP	Rodgers, Charles H	4202 South University, Little Rock 72204	562-4838
RD	Rodgers, Clyde D	5223 Hawthorne, Little Rock 72207 (Res.)	663-7502
ORS	Rooney, Thomas P	501 West 25th, North Little Rock 72114	758-2046
RD	Rosenbaum, Carl A	107 Cambridge Place, Little Rock 72207 (Res )	225-8071
RD	Ross, Robert W	123 Normandy Road, Little Rock 72207 (Res.)	663-2052
ONC	Ross, S. William	#1 St. Vincent Circle, #110, Little Rock 72205	664-6600
RD	Rothert, Frances C	Benedictine Manor, Hot Springs 71914 (Res.)	623-1571
OTO	Rounsaville, Harry L	500 South University, Little Rock 72205	664-9082
OPH	Roy, F. Hampton	1000 Medical Towers Building, Little Rock 72205	227-6980
OTO	Ruggles, Dwayne L	520 West 26th, North Little Rock 72114	758-6560
ORS	Runyan, William A	110 Doctors Park Building, Little Rock 72205	227-4150
ORS	Saer, Edward H, III	#1 St. Vincent Circle, #210, Little Rock 72205	661-0350
ADM	Saltzman, Ben N	4815 West Markham, Little Rock 72205	661-2111
TS	Satterfield, John V	500 South University, Little Rock 72205	664-6050
ORS	Schock, Charles C	Post Office Box 5270, Little Rock 72215	224-6900
FP	Schratz, Bruce E	1801 Maple, North Little Rock 72114	758-1002
OPH	Schroeder, George T	260 Doctors Park Building, Little Rock 72205	224-4484
IM	Schultz, John C	10001 Lile Drive, Little Rock 72205	227-8000
GS	Schwander, Howard	320 Doctors Park Building, Little Rock 72205	227-7200
RD	Schwarz, W. J	18 Blue Ridge Circle, Little Rock 72207 (Res.)	663-3164
OPH	Scruggs, Jan W	312 Pershing, North Little Rock 72114	758-7627
R	Seibert, Joanna J	804 Wolfe, Little Rock 72201	370-1100
ORS	Selakovich, Walter G	500 South University, Little Rock 72205	666-2824
P	Shannon, Robert F	4313 West Markham, Little Rock 72205	664-4500
EM	Shelby, Eugene M	100 Whittington, Hot Springs 71901	624-5451
OPH	Shock, John P	4301 West Markham, Slot 523, Little Rock 72201	661-5150
#	Shuftfield, H. Elvin	Little Rock	
PD	Shultz, Sam L	4815 West Markham, Little Rock 72205	661-2757
IM	Silvoso, Gerald R	10001 Lile Drive, Little Rock 72205	227-8000
OBG	Simmons, Orman W	#1 Lile Court, Little Rock 72205	224-5500
IM	Simpson, N. Henry	941 Donaghey Building, Little Rock 72201	375-2801
P	Sims, James M	3629 McCain, North Little Rock 72116	758-9993
PD	Sims, Neil H	4301 West Markham, Little Rock 72201	661-5320
PTH	Singleton, L. Gene	1120 Medical Towers Building, Little Rock 72205	227-2888
GS	Sipes, Frank M	1100 North University, Little Rock 72207	664-4596
ORS	Slater, John G, Jr	1100 North University, Little Rock 72207	664-7710
PTH	Slaven, John E	1120 Medical Towers Building, Little Rock 72205	225-7711
R	Slayden, John E	1100 Medical Towers Building, Little Rock 72205	227-5240
AN	Sloan, Fay M	10825 Financial Centre Parkway, Little Rock 72211	227-7590
GYN	Sloan, James M	500 South University, Little Rock 72205	664-2277
GE	Smart, Douglas F	409 North University, Little Rock 72205	664-6980
P	Smith, Aubrey C	#1 St. Vincent Circle, #260, Little Rock 72205	664-0001
CD	Smith, David E	360 Doctors Park Building, Little Rock 72205	224-6525
OBG	Smith, Douglas B	#1 Lile Court, Little Rock 72205	224-5500



Type of Practice	Member's Name	Address	Telephone Number
OPH	Smith, James L	623 Woodlane, Little Rock 72201	374-6491
OPH	Smith, Joe E	7107 West 12th, Little Rock 72204	666-8627
FP	Smith, John McCollough	4000 Woodlawn, Little Rock 72205	666-6570
GYN	Smith, Mose, III	5326 West Markham, Little Rock 72205	664-1527
A	Smith, Purcell, Jr	Post Office Box 5675, Little Rock 72215	227-5210
GE	Smith, Thomas J	409 North University, Little Rock 72205	664-6980
PD	Smith, Thomas W	500 South University, Little Rock 72205	664-4117
OTO	Smith, Tom	330 Medical Towers Building, Little Rock 72205	227-4863
#	Snodgrass, W. A., Jr	Mobile, Alabama	
R	Snyder, Linda M	1100 Medical Towers Building, Little Rock 72205	227-5240
FP	Somers, A Jack	330 Doctors Park Building, Little Rock 72205	227-6363
ORS	Sorrells, R Barry	Post Office Box 5270, Little Rock 72215	224-6900
RD	Spitzberg, Irving J	307 North Cedar, Little Rock 72205 (Res.)	663-6877
EM	Spurgeon, P Stanley	4301 West Markham, Slot 584, Little Rock 72201	661-5515
PUD	Squire, Arthur E	10001 Lile Drive, Little Rock 72205	227-8000
IM	Stanley, Joe P	Pike Plaza Center, North Little Rock 72114	758-9823
R	Stannard, Michael W	114 North Woodrow, Little Rock 72205	868-9216, Ext 234
ORS	Steele, William L	1100 North University, Little Rock 72207	664-7710
IM	Sternberg, Jack J	1000 North University, Little Rock 72207	661-0060
IM	Stockley, Susan M	1100 North University, Little Rock 72207	664-1540
END	Stonesifer, Larry D	8500 West Markham, Little Rock 72205	225-9654
FP	Storeygard, Alan R	Post Office Box 459, Jacksonville 72076	982-2141
FP	Stotts, John R	Post Office Box 7219, Little Rock 72217	663-9415
CD	Stout, Kimber M	2000 Fendley Drive, North Little Rock 72114	758-5133
FP	Strauss, Alvin W., Jr	1026 Donaghey Building, Little Rock 72201	372-1828
IM	Strauss, Mark A	1026 Donaghey Building, Little Rock 72201	372-1828
PD	Stroope, George F	516 Pershing, North Little Rock 72114	758-1530
OBG	Struble, R Harlan	270 Medical Towers Building, Little Rock 72205	224-6300
PS	Stuckey, James G	500 South University, Little Rock 72205	664-4383
OBG	Studdard, James D	#1 Lile Court, Little Rock 72205	224-5500
U	Suliman, J Samir	518 West 26th, North Little Rock 72114	758-6111
PTH	Sullivan, Charles D	1120 Medical Towers Building, Little Rock 72205	227-2888
N	Sullivan, Jan R	300 Medical Towers Building, Little Rock 72205	227-4750
P	Sundermann, Richard H	V A Hospital, North Little Rock 72114	372-8361
FP	Sung, Michael Y	6917 Geyer Springs Road, Little Rock 72209	568-4949
RD	Swindoll, Bryant S	3415 N Hills Blvd., North Little Rock 72116 (Res.)	753-3029
OBG	Tanner, James A	#1 Lile Court, Little Rock 72205	224-5500
IM	Taylor, Eugene H.	10001 Lile Drive, Little Rock 72205	227-8000
CRS	Tedford, John G	500 South University, Little Rock 72205	664-8466
PD	Teeter, John A	501 North University, Little Rock 72205	661-1917
GE	Texter, E Clinton, Jr	4301 West Markham, Slot 567, Little Rock 72201	661-5177
OPH	Thomas, A. Henry	500 South University, Little Rock 72205	664-8445
ORS	Thomas, Jerry L	#1 St Vincent Circle, # 210, Little Rock 72205	661-0350
GS	Thomas, Peter O	1310 Cantrell Road, Little Rock 72201	374-5703
CD	Thompson, A J	#1 St Vincent Circle, # 450, Little Rock 72205	664-5860
OTO	Thompson, Albert R	500 South University, Little Rock 72205	664-4381
AN	Thompson, Dola S	4301 West Markham, Little Rock 72201	661-6119
IM	Thompson, John R	11215 Hermitage Road, Little Rock 72211	225-2661
ORS	Thompson, S Berry	1100 North University, Little Rock 72207	664-7710
ORS	Thompson, Samuel B	1100 North University, Little Rock 72207	664-7710
ADM	Thorn, G Max	St Vincent Infirmary, Little Rock 72201	661-3154
OBG	Thrower, Rufus, Jr	1306 Wright Avenue, Little Rock 72206	374-3927
FP	Tilley, Steve B	Post Office Box 7219, Little Rock 72217	663-9415
R	Tirman, Robert M	4301 West Markham, Little Rock 72201	661-5740
ADM	Towbin, Eugene J	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext 291
FP	Tracy, Phillip A	Post Office Box 459, Jacksonville 72076	982-2141
HEM	Tranum, Bill L	500 South University, Little Rock 72205	664-3008
GP	Trussell, Thomas W	5326 West Markham, Little Rock 72205	663-6251
AN	Tseng, Jyi-Ming	10825 Financial Centre Parkway, Little Rock 72211	227-7058
GS	Tucker, W Everett	990 Medical Towers Building, Little Rock 72205	227-9080
#	Valentine, Robert G	North Little Rock	
**AN	Valentine, Robert G, Jr	4301 West Markham, Little Rock 72201	661-6114
AN	Vaughtner, W Roger	#3 Ken Circle, Little Rock 72207 (Res.)	664-3789
FP	Venable, R S	Post Office Box 9608, Little Rock 72219	568-4949
PS	Vogel, Robert G	11219 Hermitage Road, Little Rock 72211	227-6063
FP	Wade, W I	424 North University, Little Rock 72205	664-4810
IM	Wagoner, Jack	5918 Lee, Little Rock 72205	664-2500
#	Wallis, Charles	Little Rock	
GS	Walt, James R	500 South University, Little Rock 72205	664-4146
IM	Ward, Harry P	4301 West Markham, Little Rock 72201	661-5680
AN	Ward, Joseph P	10825 Financial Centre Parkway, Little Rock 72211	227-7590
PD	Warford, Lloyd R	500 South University, Little Rock 72205	664-4044
RD	Warford, Walton R	3737 Lakeshore Drive, North Little Rock 72116 (Res.)	753-4193
OPH	Watkins, John G, Jr	230 Doctors Park Building, Little Rock 72205	227-6797
OPH	Watkins, John G, III	230 Doctors Park Building, Little Rock 72205	227-6797
IM	Watkins, Larry S	500 South University, Little Rock 72205	661-9740
RD	Watson, C Robert	30 Edgehill, Little Rock 72207 (Res.)	663-6680
ORS	Weber, Edward R	4301 West Markham, Little Rock 72201	661-5590
FP	Weber, James R	Post Office Box 188, Jacksonville 72076	982-2108
ORS	Weber, Michael J	3629 McCain, North Little Rock 72116	753-1747
CDS	Weiss, John B	780 Medical Towers Building, Little Rock 72205	224-1508
NEP	Wellons, James A	350 Medical Towers Building, Little Rock 72205	224-2141
PS	Wende, Raymond A	11213 Hermitage Road, Little Rock 72211	227-6063
GS	Wenger, Carl E	330 Doctors Park Building, Little Rock 72205	227-6363
GS	Westbrook, Kent C	4301 West Markham, Little Rock 72201	661-5987
P	Westerfield, Frank M	230 Medical Towers Building, Little Rock 72205	225-0777
TS	Westerman, G Richard	4301 West Markham, Little Rock 72201	661-5300
FP	White, Oba B	908 High, Little Rock 72202	374-3609
RD	Wilbur, E Lloyd	#3 Wingate Drive, Little Rock 72205 (Res.)	225-1252
GP	Wilkes, Elbert H	5326 West Markham, Little Rock 72205	663-4114
PS	Wilkes, T David I	4301 West Markham, Little Rock 72201	661-5151
CDS	Williams, C David	200 Medical Towers Building, Little Rock 72205	224-5666
CDS	Williams, G Doyne	#1 St. Vincent Circle, #330, Little Rock 72205	666-2894
NS	Williams, Ronald N	750 Medical Towers Building, Little Rock 72205	225-0880
CD	Wilson, James W	#1 St Vincent Circle, #440, Little Rock 72205	664-9040
GER	Wilson, Jed D	Post Office Box 7512, Little Rock 72217	663-5413
ORS	Wilson, John L	601 North University, Little Rock 72205	666-0144
OPH	Wilson, R Sloan	500 South University, Little Rock 72205	664-1104
IM	Winn, Charles R	240 Doctors Park Building, Little Rock 72205	227-6659
OBG	Wong, Ting C	4301 West Markham, Little Rock 72201	661-5921
GYN	Wood, Gary P	500 South University, Little Rock 72205	664-6127
FP	Wortham, Thomas H	Post Office Box 459, Jacksonville 72076	982-2141
CDS	Wright, Ruel N	#1 St Vincent Circle, Little Rock 72205	666-2894
PTH	Young, Douglas E	9600 West 12th, Little Rock 72205	771-3264
RD	Zell, Lawrence M	Star Route, Box 88-B, Tucker 72168 (Res.)	842-2216

Type of Practice	Member's Name	Address	Telephone Number
<b>RANDOLPH COUNTY</b>			
FP	Baltz, Albert L.	Route 5, Doctors Medical Bldg, Pocahontas 72455	892-4467
FP	Baltz, M. A.	110 West Broadway, Pocahontas 72455	892-3111
FP	Barre, Hal S.	Route 5, Doctors Medical Bldg, Pocahontas 72455	892-4497
GP	DeClerk, Thomas B.	Route 5, Doctors Medical Bldg, Pocahontas 72455	892-3344
GS	Hadad, Anibal R.	Post Office Box 725, Pocahontas 72455	892-4406
FP	Holt, Danny B.	Route 5, Doctors Medical Bldg, Pocahontas 72455	892-4467
FP	Jansen, Andrew J., III	Route 5, Doctors Medical Bldg, Pocahontas 72455	892-4467
FP	Lombardo, Richard J.	Route 4, Highway 90, Pocahontas 72455	892-4464
FP	Scott, William W.	Post Office Box 466, Pocahontas 72455	892-8086
GP	Smith, Norman K.	107 Van Bibber, Pocahontas 72455	892-3389
<b>SALINE COUNTY</b>			
RD	Ashby, John W.	312 Dogwood, Benton 72015 (Res.)	778-2470
R	Ashby, Robert M.	815 North East, Benton 72015	778-6555
PD	Atkins, Mary J.	825 North Main, Benton 72015	778-0421
GS	Baber, Quin M.	105 McNeil, Benton 72015	778-7435
OM	Bethel, James C.	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext 300
OBG	Caldwell, David L.	910 North East, Benton 72015	778-0426
ORS	Cash, Ralph D.	105 McNeil, Benton 72015	778-1388
GP	Coker, S. Dale	Benton Services Cntr, Bldg 6, Benton 72015	371-1906
FP	Cornwell, Samuel L.	Route 3, Box 225, Benton 72015	371-1906
OBG	Council, R. A., Jr.	910 North East, Benton 72015	778-0426
ORS	Duncan, J. Shelby	105 McNeil, Benton 72015	778-1388
OPH	Gardner, Dan R.	Post Office Box 340, Benton 72015	778-8842
IM	Hill, Edward B.	1200 North Main, Benton 72015	778-5740
GP	Hogue, F. Paul	Post Office Box 307, Benton 72015	778-4511
FP	Hood, C. Ted	Post Office Box 483, Bryant 72022	847-0082
FP	Izard, Ralph S.	Post Office Box A-A, Bryant 72022	847-0289
FP	Kirk, Marvin N., Jr.	205 Carpenter, Benton 72015	778-8264
GP	Martindale, J. L.	302 West South, Benton 72015	778-4511
RD	Mizell, Walter S.	1415 Pinewood, Benton 72015 (Res.)	778-6522
AN	Porter, Jim C.	Post Office Box D, Benton 72015	776-0052
OM	Ramsay, Rex C.	Post Office Box 300, Bauxite 72011	778-3644
FP	Stewart, David L.	205 Carpenter, Benton 72015	778-8264
FP	Taggart, S. D.	Post Office Box 969, Benton 72015	778-0934
OBG	Thibault, Frank G., Jr.	910 North East, Benton 72015	778-0426
IM	Thomas, Bill R.	1200 North Main, Benton 72015	778-5740
RD	Thorn, H. B., Jr.	Route 6, Box 1200, Benton 72015 (Res.)	778-4858
GP	Tilley, Roger L.	302 West South, Benton 72015	778-4511
GS	Viner, Donald L.	105 McNeil, Benton 72015	778-7435
FP	Wright, John D.	321 Short, Benton 72015	776-0603
<b>SCOTT COUNTY</b>			
GS	Ahmed, S. A.	Post Office Box 547, Waldron 72958	637-3135
<b>SEBASTIAN COUNTY</b>			
**FP	Acklin, Jimmy D.	100 South 14th, Fort Smith 72901	785-2431
NM	Albers, David G.	Post Office Box 1827, Fort Smith 72902	782-5035
ORS	Alberty, Joe P.	7303 Rogers Avenue, Fort Smith 72903	452-3500
EM	Alexander, R. Kent	1311 South "I", Fort Smith 72901	441-5011
GS	Anderson, Paul M.	1501 South Waldron, Fort Smith 72903	452-9316
OBG	Atkins, Jimmie G.	1500 Dodson, Fort Smith 72901	782-2071
GP	Bailey, Charles W.	Post Office Box 426, Greenwood 72936	996-4111
P	Baker, Max A.	2112 South Greenwood, Fort Smith 72901	785-2361
IM	Barker, Robert C., Jr.	1500 Dodson, Fort Smith 72901	782-2071
HEM	Barnes, L. Ford	Post Office Box 3528, Fort Smith 72913	452-2077
AN	Berryhill, Richard E.	216-A North Greenwood, Fort Smith 72901	783-1497
OBG	Berumen, Mike	Post Office Box 3528, Fort Smith 72913	452-2077
GE	Bordeaux, Ronald A.	Post Office Box 3528, Fort Smith 72913	452-2077
D	Bradford, A. C.	Post Office Box 3528, Fort Smith 72913	452-2077
P	Bradley, Joe F.	2112 South Greenwood, Fort Smith 72901	785-2361
R	Broadwater, John R.	1500 Dodson, Fort Smith 72901	782-2071
ORS	Brown, Byron L.	100 North 16th, Fort Smith 72901	783-3604
RD	Brown, James A.	6810 South "T", Fort Smith 72903 (Res.)	452-1231
R	Brown, Richard N.	1501 South Waldron, Fort Smith 72903	452-9416
ORS	Buie, James H.	1500 Dodson, Fort Smith 72901	782-2071
FP	Busby, J. David	100 South 14th, Fort Smith 72901	785-2431
PD	Cabell, Ben B.	312 South 16th, Fort Smith 72901	782-7921
R	Cassady, Calvin R.	Post Office Box 1827, Fort Smith 72902	782-5035
P	Chambers, A. Pat	1500 Dodson, Fort Smith 72901	782-2071
RD	Chamblin, Don W.	2500 Fresno Place, Fort Smith 72901 (Res.)	646-5391
AN	Chester, Robert L.	1500 Dodson, Fort Smith 72901	782-2071
**FP	Clark, Terry	100 South 14th, Fort Smith 72901	785-2431
	Clemmons, Edward E.	Texas	
AN	Coffman, Edwin L.	1500 Dodson, Fort Smith 72901	782-2071
NEP	Coleman, Michael D.	1500 Dodson, Fort Smith 72901	782-2071
CRS	Crigler, Ralph E.	1500 Dodson, Fort Smith 72901	782-2071
R	Crow, Neil E., Sr.	1500 Dodson, Fort Smith 72901	782-2071
R	Crow, Neil E., Jr.	1500 Dodson, Fort Smith 72901	782-2071
R	Culp, William C.	1501 South Waldron, Fort Smith 72903	452-9416
RD	Cunningham, Charles S.	212 Mockingbird Lane, Poteau, Oklahoma 74953 (Res.)	918-647-4904
PTH	Davenport, O. Leo	923 Lexington, Fort Smith 72901	785-1447
CD	Deaton, John M.	1500 Dodson, Fort Smith 72901	782-2071
PD	deMiranda, Fred C.	1501 South Waldron, Fort Smith 72903	452-8311
RHU	Deneke, James S.	1500 Dodson, Fort Smith 72901	782-2071
P	Desrochers, Paul E.	7303 Rogers, Fort Smith 72903	452-9115
P	Dorzab, Joe H.	1500 Dodson, Fort Smith 72901	782-2071
FP	Dudding, W. F.	3104 Executive Park, Fort Smith 72903	452-9012
NS	Dulligan, Michael P.	1500 Dodson, Fort Smith 72901	782-2071
FP	Durmon, Beuford T.	7303 Rogers, Fort Smith 72903	452-4552
IM	Edmondson, Steve A.	320 North Greenwood, Fort Smith 72901	782-4470
OBG	Ellis, Homer G.	Post Office Box 3507, Fort Smith 72913	785-2411
R	Erickson, Clark A.	1500 Dodson, Fort Smith 72901	782-2071
OPH	Faier, S. Z.	1500 Dodson, Fort Smith 72901	782-2071
HEM	Fecher, Dennis R.	1500 Dodson, Fort Smith 72901	782-2071
U	Feder, Frederick P.	520 Lexington, Fort Smith 72901	782-7261
FP	Feild, T. A., III	3600 North "O", Fort Smith 72904	783-5158
OPH	Felker, Gary V.	3000 Rogers, Fort Smith 72901	782-8892
AN	Fisher, Robert D.	1500 Dodson, Fort Smith 72901	782-2071
PD	Floyd, Charles H.	617 South 16th, Fort Smith 72901	783-3165
U	Francis, Darryl R., II	520 Lexington, Fort Smith 72901	782-7261
OTO	Gedosh, Edgar A.	600 South 16th, Fort Smith 72901	782-6022
R	Gill, James A.	Post Office Box 1827, Fort Smith 72902	782-5035



Type of Practice	Member's Name	Address	Telephone Number
PDC	Gilliland, J. Campbell	1500 Dodson, Fort Smith 72901	782-2071
**FP	Gilmore, Owen B.	100 South 14th, Fort Smith 72901	785-2431
PTH	Girkin, R. Gene	923 Lexington, Fort Smith 72901	785-1447
IM	Glassell, Edwin C.	1500 Dodson, Fort Smith 72901	782-2071
OBG	Glover, D. Bruce	Post Office Box 3507, Fort Smith 72913	785-2411
PS	Goodman, R. Cole	1500 Dodson, Fort Smith 72901	782-2071
AN	Goodman, Raymond C.	1500 Dodson, Fort Smith 72901	782-2071
EM	Graves, Stephen C.	7301 Rogers, Fort Smith 72903	452-5100
N	Griggs, William L., III	1500 Dodson, Fort Smith 72901	782-2071
AN	Grimes, Alfred H.	1500 Dodson, Fort Smith 72901	782-2071
U	Hamblin, David W.	2917 South 74th, Fort Smith 72903	452-8400
ORS	Hathcock, Alfred B.	1500 Dodson, Fort Smith 72901	782-2071
#	Hawkins, S. Wright	Fort Smith	
AN	Herren, Adrian L.	216-A North Greenwood, Fort Smith 72901	783-1497
U	Hewett, Archie L.	600 South 14th, Fort Smith 72901	785-2604
P	Hill, James H.	1500 Dodson, Fort Smith 72901	782-2071
IM	Hinkle, Richard A., Jr.	1501 South Waldron, Fort Smith 72903	452-8753
**FP	Hoang, N. Van	100 South 14th, Fort Smith 72901	785-2431
OBG	Hoffman, John D.	Post Office Box 3528, Fort Smith 72913	452-2077
GS	Hoge, Marlin B.	1501 South Waldron, Fort Smith 72903	452-9316
CD	Holman, William A.	Post Office Box 3528, Fort Smith 72913	452-2077
GS	Holmes, Williams C., Jr.	Post Office Box 3528, Fort Smith 72913	452-2077
ADM	Hornberger, E. Z.	1311 South "I", Fort Smith 72901	441-5440
A	Howell, James T.	1420 South "I", Fort Smith 72901	782-2983
OPH	Hughes, Robert P., Jr.	3000 Rogers, Fort Smith 72901	782-8894
R	Huskison, William T.	1501 South Waldron, Fort Smith 72903	452-9416
OBG	Hyde, Marshall L.	Post Office Box 3507, Fort Smith 72913	785-2411
FP	Ingram, Ralph N.	1120 Lexington, Fort Smith 72901	785-2657
ORS	Irwin, Peter J.	1500 Dodson, Fort Smith 72901	782-2071
GS	Janes, Robert H.	1500 Dodson, Fort Smith 72901	782-2071
PD	Jones, Gilbert N., III	1500 Dodson, Fort Smith 72901	782-1525
RD	Jones, W. Duane	5610 South Enid, Fort Smith 72903 (Res.)	452-0484
GYN	Kelsey, J. F.	Post Office Box 3507, Fort Smith 72913	785-2411
RD	Kennedy, Virgil N.	5417 Grand, Fort Smith 72904 (Res.)	452-3351
IM	Kientz, John	1500 Dodson, Fort Smith 72901	782-2071
CD	Kloofenstein, Keith	1500 Dodson, Fort Smith 72901	782-2071
ORS	Knight, William E.	1500 Dodson, Fort Smith 72901	782-2071
END	Kocher, David B.	Post Office Box 3528, Fort Smith 72913	452-2077
PTH	Koenig, A. Samuel, III	923 Lexington, Fort Smith 72901	785-1447
RD	Koenig, Albert S., Jr.	2122 South "W", Fort Smith 72901 (Res.)	783-7233
OBG	Kradel, R. Paul	Post Office Box 3528, Fort Smith 72913	452-2077
FP	Kramer, Ralph G.	603 Lexington, Fort Smith 72901	783-8917
FP	Kutait, Kemal E.	1120 Lexington, Fort Smith 72901	785-2655
IM	Lambiotte, Louis O.	1500 Dodson, Fort Smith 72901	782-2071
PTH	Landrum, Annette V.	100 South 14th, Fort Smith 72901	785-2431
GS	Landrum, Samuel E.	2901 South 74th, Fort Smith 72903	452-5332
OTO	Lane, Charles S., Jr.	600 South 16th, Fort Smith 72901	782-6022
AN	Lenington, Jerry O.	1500 Dodson, Fort Smith 72901	441-5291
IM	Lewing, Hugh S.	404 South 16th, Fort Smith 72901	783-3158
D	Lewis, John E.	1500 Dodson, Fort Smith 72901	782-2071
FP	Lilly, Ker E.	1120 Lexington, Fort Smith 72901	785-2655
NS	Lockhart, William G.	1500 Dodson, Fort Smith 72901	782-2071
GS	Lockwood, Frank M.	1500 Dodson, Fort Smith 72901	782-2071
ORS	Long, James W.	1500 Dodson, Fort Smith 72901	782-2071
NS	MacDade, Albert D.	1500 Dodson, Fort Smith 72901	782-2071
D	Magness, Jack L., Jr.	Post Office Box 3528, Fort Smith 72913	452-2077
CD	Manus, Stephen C.	Post Office Box 3528, Fort Smith 72913	452-2077
RD	Martin, Art B.	2121 Wolfe Lane, Fort Smith 72901 (Res.)	783-1237
FP	Martin, Maurice C., "Rick"	Post Office Box 366, Greenwood 72936	996-4112
N	Marzewski, David J.	1500 Dodson, Fort Smith 72901	782-2071
OBG	Mason, Joe N.	1500 Dodson, Fort Smith 72901	782-2071
GE	Masri, Hassan M.	1500 Dodson, Fort Smith 72901	782-2071
PD	McClain, Merle E.	312 South 16th, Fort Smith 72901	782-7921
FP	McCraw, Gordon W.	114 West Fourth, Booneville 72927	675-2455
GP	McDonald, H. P.	2044 North 29th, Fort Smith 72904	782-4833
OPH	McEwen, Stanley R.	3000 Rogers, Fort Smith 72901	782-8892
FP	McKinney, Robert D.	Post Office Box 426, Greenwood 72936	996-4111
IM	McMinimy, D. J.	1500 Dodson, Fort Smith 72901	782-2071
GP	Meador, Don M.	3600 North "O", Fort Smith 72904	783-5158
R	Miller, Robert C.	1500 Dodson, Fort Smith 72901	782-2071
GS	Mings, Harold H.	1500 Dodson, Fort Smith 72901	782-2071
GP	Mitchell, Bob G.	1003 Lexington, Fort Smith 72901	782-3728
OPH	Moulton, Everett C., Jr.	7303 Rogers, Fort Smith 72903	452-9043
OPH	Moulton, Everett C., III	7303 Rogers, Fort Smith 72903	452-9043
ORS	Mumme, Marvin E.	1500 Dodson, Fort Smith 72901	782-2071
RD	Murchison, Roary A.	19 Haven Drive, Fort Smith 72901 (Res.)	782-5323
OBG	Muylaert, Michel	1501 South Waldron, Fort Smith 72903	452-8158
PD	Nassri, Louay	1500 Dodson, Fort Smith 72901	782-2071
PUD	Nichols, David R.	1500 Dodson, Fort Smith 72901	782-2071
D	Niemann, Jeffrey M.	316 Lexington, Fort Smith 72901	783-1121
CD	Nolewajka, A. J.	Post Office Box 3528, Fort Smith 72913	452-2077
GS	Olson, John D.	1500 Dodson, Fort Smith 72901	782-2071
ORS	Osborne, D. Frank	7303 Rogers, Fort Smith 72903	452-6522
GE	Paris, Charles H.	Post Office Box 3528, Fort Smith 72913	452-2077
ORS	Parker, Douglas W., Jr.	1500 Dodson, Fort Smith 72901	782-2071
PD	Parker, Joel E., Jr.	617 South 16th, Fort Smith 72901	783-3165
IM	Parker, Stephen M.	320 North Greenwood, Fort Smith 72901	782-4470
R	Parker, Thomas G.	1501 South Waldron, Fort Smith 72903	452-9416
CDS	Patrick, Donald L.	1500 Dodson, Fort Smith 72901	782-2071
IM	Pence, Eldon D., Jr.	1501 South Waldron, Fort Smith 72903	452-8753
FP	Perrymore, W. Dale	7110 Rogers, Fort Smith 72903	452-6362
GYN	Phillips, W. P.	Post Office Box 3507, Fort Smith 72913	785-2411
FP	Pillstrom, Lawrence G.	1120 Lexington, Fort Smith 72901	785-2655
IM	Poe, McDonald, Jr.	1501 South Waldron, Fort Smith 72903	452-8753
OBG	Poole, M. Louis	1501 South Waldron, Fort Smith 72903	452-8158
CD	Pope, John R.	1500 Dodson, Fort Smith 72901	782-2071
PD	Post, James M.	617 South 16th, Fort Smith 72901	783-3165
IM	Pradel, Paul A.	1501 South Waldron, Fort Smith 72903	452-8753
CD	Prewitt, Taylor A.	Post Office Box 3528, Fort Smith 72913	452-2077
IM	Price, Lawrence C.	404 South 16th, Fort Smith 72901	783-3158
NEP	Rabideau, Dana P.	1500 Dodson, Fort Smith 72901	782-2071
OTO	Raymond, Thomas H.	600 South 16th, Fort Smith 72901	782-6022
N	Reul, Charles G.	1500 Dodson, Fort Smith 72901	782-2071
EM	Reyenga, Stanley L.	1311 South "I", Fort Smith 72901	441-5011
END	Robinson, Ronald P.	Post Office Box 3528, Fort Smith 72913	452-2077
R	Rogers, Paul L.	1501 South Waldron, Fort Smith 72903	452-9416
FP	Ross, R. Wendell	1120 Lexington, Fort Smith 72901	785-2655

Type of Practice	Member's Name	Address	Telephone Number
R .....	Russell, Rex D .....	1500 Dodson, Fort Smith 72901 .....	782-2071
AN .....	Safranek, Edward J .....	216-A North Greenwood, Fort Smith 72901 .....	783-1497
GS .....	Saviers, Boyd M .....	1500 Dodson, Fort Smith 72901 .....	782-2071
AN .....	Schemel, William H .....	216-A North Greenwood, Fort Smith 72901 .....	783-1497
IM .....	Schwarz, Paul R .....	404 South 16th, Fort Smith 72901 .....	783-3158
N .....	Serrano, Ernest E .....	1500 Dodson, Fort Smith 72901 .....	782-2071
GYN .....	Sherman, Robert L .....	Post Office Box 3507, Fort Smith 72913 .....	785-2411
GP .....	Shermer, Jonathan P .....	623 South 21st, Fort Smith 72901 .....	783-4014
ORS .....	Sherrill, William M., Jr. ....	1500 Dodson, Fort Smith 72901 .....	782-2071
PTH .....	Sigler, John K .....	923 Lexington, Fort Smith 72901 .....	785-1447
	Skagerberg, David G .....	Waveland, Mississippi .....	
PTH .....	Smith, Kent .....	923 Lexington, Fort Smith 72901 .....	785-1447
FP .....	Smith, Terrald J .....	100 South 14th, Fort Smith 72901 .....	785-2431
R .....	Snider, James R .....	1500 Dodson, Fort Smith 72901 .....	782-2071
IM .....	Staggs, J. David .....	1500 Dodson, Fort Smith 72901 .....	782-2071
ORS .....	Stanton, William B .....	7303 Rogers, Fort Smith 72903 .....	452-8121
PUD .....	Stewart, Jerry R .....	Post Office Box 3528, Fort Smith 72913 .....	452-2077
GP .....	Stewart, J. B .....	603 Lexington, Fort Smith 72901 .....	783-8917
PS .....	Still, E. F., II .....	1500 Dodson, Fort Smith 72901 .....	782-2071
FP .....	Swena, Richard R .....	302 North 13th, Fort Smith 72901 .....	785-2425
OBG .....	Tate, William B .....	1500 Dodson, Fort Smith 72901 .....	782-2071
RD .....	Thompson, J. Kenneth .....	3804 Free Ferry, Fort Smith 72903 (Res) .....	783-5711
GP .....	Thompson, James B .....	605 Lexington, Fort Smith 72901 .....	782-6081
GP .....	Thompson, Robert J .....	605 Lexington, Fort Smith 72901 .....	782-6081
HEM .....	Turner, William F .....	1500 Dodson, Fort Smith 72901 .....	782-2071
D .....	Vanderpool, Roy E .....	Post Office Box 3528, Fort Smith 72913 .....	452-2077
FP .....	Venturina, Arturo P .....	Post Office Box 296, Huntington 72940 .....	928-4404
CDS .....	Vernon, Rowland P., Jr. ....	1500 Dodson, Fort Smith 72901 .....	782-2071
U .....	Wahman, Gerald E .....	1500 Dodson, Fort Smith 72901 .....	782-2071
OPH .....	Wallace, Kenneth K .....	3000 Rogers, Fort Smith 72901 .....	782-8892
PD .....	Walling, Robert V .....	617 South 16th, Fort Smith 72901 .....	783-3165
PD .....	Watts, John C .....	500 South 16th, Fort Smith 72901 .....	783-1085
PUD .....	Webb, William K .....	Post Office Box 3528, Fort Smith 72913 .....	452-2077
GS .....	Weisse, John J .....	5622 Rogers, Fort Smith 72903 .....	452-4400
HEM .....	Wells, John D .....	Post Office Box 3528, Fort Smith 72913 .....	452-2077
EM .....	Westbrook, Michael R .....	1311 South "I", Fort Smith 72901 .....	441-5011
AN .....	Westermann, Norman F .....	1500 Dodson, Fort Smith 72901 .....	782-2071
GYN .....	Whitaker, T. J., Jr. ....	1823 Dodson, Fort Smith 72901 .....	782-4929
IM .....	White, J. Earle, III .....	1501 South Waldron, Fort Smith 72903 .....	452-8661
A .....	Whiteside, Edwin .....	3416 Old Greenwood Road, Fort Smith 72903 .....	646-8066
ORS .....	Wideman, John W .....	7303 Rogers, Fort Smith 72903 .....	452-8121
GS .....	Wikman, John H .....	1500 Dodson, Fort Smith 72901 .....	782-2071
CDS .....	Williams, Carl L .....	522 South 16th, Fort Smith 72901 .....	785-1080
CD .....	Williams, Thomas N .....	1500 Dodson, Fort Smith 72901 .....	782-2071
OTO .....	Wills, Paul I .....	600 South 16th, Fort Smith 72901 .....	782-6022
U .....	Wilson, Carl L .....	1500 Dodson, Fort Smith 72901 .....	782-2071
U .....	Wilson, Morton C .....	1500 Dodson, Fort Smith 72901 .....	782-2071
U .....	Wilson, Steven K .....	1500 Dodson, Fort Smith 72901 .....	782-2071
CDS .....	Woods, Leon P .....	1500 Dodson, Fort Smith 72901 .....	782-2071
R .....	Worrell, John A .....	1501 South Waldron, Fort Smith 72903 .....	452-9416
CDS .....	Zufari, Munir M .....	2901 South 74th, Fort Smith 72903 .....	452-7333
SEVIER COUNTY			
GP .....	Brown, Olie D., Jr. ....	Post Office Drawer 890, DeQueen 71832 .....	642-2465
FP .....	Buffington, Michael L .....	Highway 70 West, DeQueen 71832 .....	642-8010
FP .....	Carlson, Kevin R .....	North 4th and Heynecker, DeQueen 71832 .....	642-2840
FP .....	Daniel, J. Frank .....	Highway 70 West, DeQueen 71832 .....	642-2022
# .....	Dickinson, George W .....	Fayetteville .....	
FP .....	Jones, Charles N .....	Highway 70 West, DeQueen 71832 .....	642-2022
EM .....	McKiever, W. R .....	Post Office Box E, DeQueen 71832 .....	584-4111
GP .....	Pierce, Joseph B .....	Post Office Drawer 890, DeQueen 71832 .....	642-2465
GS .....	Stearns, David E .....	Highway 70 West, DeQueen 71832 .....	642-5211
R .....	Williams, W. Curtis .....	#10 Jawanda Lane, Searcy 72143 .....	268-6799
ST. FRANCIS COUNTY			
OBG .....	Barker, Charles L .....	Post Office Box 551, Forrest City 72335 .....	633-7051
FP .....	Cogburn, Harold N .....	328 Kittel Road, Forrest City 72335 .....	633-1425
FP .....	Collins, E. Morgan .....	1801 Lindauer Road, Forrest City 72335 .....	633-1952
FP .....	Crawley, Charles E .....	328 Kittel Road, Forrest City 72335 .....	633-1425
OBG .....	DeRossitt, James P .....	1712 Lindauer Road, Forrest City 72335 .....	633-0091
GP .....	Fong, Fun Hung .....	Post Office Box 735, Hughes 72348 .....	339-2373
GS .....	Gerritsen, Roy W .....	1600 Lindauer Road, Forrest City 72335 .....	633-4896
FP .....	Hammons, Edward P .....	328 Kittel Road, Forrest City 72335 .....	633-1425
FP .....	McGuire, Sam A., III .....	328 Kittel Road, Forrest City 72335 .....	633-1425
FP .....	McPhail, George T .....	1801 Lindauer Road, Forrest City 72335 .....	633-1952
FP .....	Seibel, Donald G .....	318 East Cook, Forrest City 72335 .....	633-8856
FP .....	Wooliam, Christopher J .....	318 East Cook, Forrest City 72335 .....	633-5656
TRI-COUNTY			
GP .....	Arnold, Carl B .....	Post Office Box 457, Salem 72576 .....	895-3281
GP .....	Benton, Thomas H .....	Post Office Box 366, Salem 72576 .....	895-2990
FP .....	Bozeman, Jimmy G .....	Family Clinic, Salem 72576 .....	895-2541
GP .....	Ducker, David E .....	Post Office Box 547, Salem 72576 .....	895-3215
GS .....	Grasse, A. Meryl .....	Post Office Box 438, Calico Rock 72519 .....	297-3726
RD .....	Krygier, Albin J .....	306 Royal Drive, Horseshoe Bend 72512 (Res) .....	670-5865
FP .....	Lane, Robert C .....	Post Office Box 617, Calico Rock 72519 .....	297-3726
GP .....	McCormack, John M .....	Post Office Box 250, Mammoth Spring 72554 .....	625-3228
FP .....	Meisenheimer, Martin P., III .....	Post Office Box 1067, Cherokee Village 72525 .....	257-3929
FP .....	Moody, Michael N .....	Post Office Box 829, Salem 72576 .....	895-2541
FP .....	Smith, James F .....	Post Office Box 155, Horseshoe Bend 72512 .....	670-4754
GP .....	Tatum, Harold M .....	Post Office Box D, Melbourne 72556 .....	368-4344
EM .....	Villines, Gary W .....	Memorial Hospital Emergency Room, North Little Rock 72114 .....	771-3355
FP .....	Young, Timothy D .....	South Allegheny, Hardy 72542 .....	856-3213
UNION COUNTY			
ORS .....	Bell, Robert S .....	619 West Grove, El Dorado 71730 .....	863-5146
OBG .....	Booker, J. Gregory .....	704 West Grove, El Dorado 71730 .....	863-8444
U .....	Bowman, Raymond N .....	619 North Newton, El Dorado 71730 .....	862-5439
ORS .....	Callaway, James C .....	705 West Faulkner, El Dorado 71730 .....	863-6123
FP .....	Carroll, Peter J .....	704 West Grove, El Dorado 71730 .....	863-5509
GP .....	Clowney, A. R .....	460 West Oak, El Dorado 71730 .....	863-8116
OTO .....	Cyphers, Charles D .....	519 West Faulkner, El Dorado 71730 .....	862-3471
GP .....	Dunn, Tom L .....	Post Office Box 538, Hamplon 71744 .....	798-4272



Type of Practice	Member's Name	Address	Telephone Number
PTH	Duzan, Kenneth R	443 West Oak, El Dorado 71730	862-1351
PTH	Elliott, Wayne G	443 West Oak, El Dorado 71730	862-1351
IM	Ellis, Jacob P	490 West Faulkner, El Dorado 71730	863-2381
RD	Fitch, Leston E	38 Meadowbrook Drive, Conway 72032 (Res )	329-3230
IM	Flournoy, Durwood W	714 West Faulkner, El Dorado 71730	862-5184
P	Fraser, David B	715 North College, El Dorado 71730	862-7921
ORS	Giller, W John, Jr	705 West Faulkner, El Dorado 71730	863-6123
IM	Hardin, A Scott	714 West Faulkner, El Dorado 71730	862-5184
GS	Harper, John W	425 West Oak, El Dorado 71730	863-5135
ORS	Hartmann, Ernest R	619 West Grove, El Dorado 71730	863-5146
FP	Hill, Grady E	427 West Oak, El Dorado 71730	863-7158
PTH	Jennings, R Duke	443 West Oak, El Dorado 71730	862-1351
GE	Jones, Steve A	714 West Faulkner, El Dorado 71730	862-5184
D	Jucas, John J	525 West Faulkner, El Dorado 71730	862-5485
R	King, B D	Post Office Box 1742, El Dorado 71730	863-2587
OPH	Landers, Gardner H	318 Thompson, El Dorado 71730	862-4216
PD	Lewis, Rick J	Post Office Box 851, Hampton 71744	798-4299
FP	Maud, Patricia A	305 S Bradley, El Dorado 71730 (Res )	NF
PD	McKinney, J S	209 Thompson, El Dorado 71730	862-4994
GS	Menendez, Moises A	412 North Washington, El Dorado 71730	862-3411
FP	Moore, Berry L , Jr	490 West Faulkner, El Dorado 71730	863-2362
GS	Moore, John H	412 North Washington, El Dorado 71730	862-3411
U	Murfee, Robert M	619 North Newton, El Dorado 71730	862-5439
R	Parkman, R L, Jr	460 West Oak, El Dorado 71730	863-2588
R	Pellizzetti, A G	Post Office Box 1497, El Dorado 71730	864-7932
OTO	Pillsbury, Richard C	613 Thompson, El Dorado 71730	863-0010
AN	Pinkerton, R E	700 West Grove, El Dorado 71730	864-3484
IM	Pirriue, Allan S	714 West Faulkner, El Dorado 71730	862-5184
OBG	Rabie, Fouad M	431 West Oak, El Dorado 71730	863-4101
OBG	Ratcliff, John B	704 West Grove, El Dorado 71730	863-8444
PD	Rogers, Henry B	209 Thompson, El Dorado 71730	862-4994
D	Sample, Dorothy C	525 West Faulkner, El Dorado 71730	862-5485
R	Schultz, Wayne H	305 North Washington, El Dorado 71730	862-5100
GS	Scurlock, William R	412 North Washington, El Dorado 71730	862-3411
GP	Seale, James E, Jr	528 West Faulkner, El Dorado 71730	863-7154
FP	Sheppard, James M	416 North Newton, El Dorado 71730	862-1211
FP	Smith, George W	704 West Grove, El Dorado 71730	862-7661
AN	Stevens, W M	460 West Oak, El Dorado 71730	863-2275
PD	Sykes, James D	403 West Oak, El Dorado 71730	862-2552
FP	Sykes, Robert R	403 West Oak, El Dorado 71730	862-5571
GYN	Talley, H Aubry	403 West Oak, El Dorado 71730	862-0150
OBG	Thibault, Frank G, Sr	427 West Oak, El Dorado 71730	862-5403
GS	Tommey, C E	412 North Washington, El Dorado 71730	862-3412
GS	Tommey, Robert C	412 North Washington, El Dorado 71730	862-3411
OBG	Turnbow, R L	427 West Oak, El Dorado 71730	863-6157
PD	Vyas, Dileepkumar R	317 Thompson, El Dorado 71730	862-8961
FP	Warren, George W	Post Office Box W, Smackover 71762	725-3471
IM	Weedman, James B	714 West Faulkner, El Dorado 71730	862-5184
OPH	Williamson, John R	318 Thompson, El Dorado 71730	862-4216
IM	Wilson, Larkin M	714 West Faulkner, El Dorado 71730	862-5184
OTO	Wise, J F	615 West Grove, El Dorado 71730	862-7918
NEP	Wu, William	317 Thompson, El Dorado 71730	863-2237
GS	Yocum, David M, Jr	412 North Washington, El Dorado 71730	862-3411
IM	Zahniser, Donna J	425 Thompson, El Dorado 71730	862-0532

VAN BUREN COUNTY

GP	Hall, John A	Post Office Box 310, Clinton 72031	745-2111
GP	Pearce, C G	Post Office Box 51, Clinton 72031	745-2412
RD	Read, Paul S	Route 2, Box 424, Fairfield Bay 72088 (Res )	884-3939
GP	Stuteville, Orion H	Route 1, Box 307, St Joe 72675 (Res )	439-2555

WASHINGTON COUNTY

D	Albright, Spencer D, III	1925 Green Acres Road, Fayetteville 72701	443-3413
GP	Applegate, C Stanley	220 Meadow Avenue, Springdale 72764	751-4637
ORS	Arnold, James A	Post Office Box 1988, Fayetteville 72702	443-0033
RP	Baggett, Jeff J	102 East Bush, Prairie Grove 72753 (Res )	846-2312
OTO	Baker, C Muri, Jr	4255 Venetian Lane, Fayetteville 72701	521-1238
FP	Baker, Donald B	241 West Spring, Fayetteville 72701	521-8260
FP	Benjamin, George H	304 South Maxwell, Siloam Springs 72761	524-3141
PTH	Bond, Walter M	Post Office Box 817, Fayetteville 72702	443-3050
FP	Box, Ivan H	Post Office Box 1049, Huntsville 72740	738-2115
PTH	Boyce, John M	607 West Maple, Springdale 72764	751-5711
U	Brandon, H B	2100 Green Acres Road, Fayetteville 72701	442-5229
RD	Brooks, W Ely	Route 2, Box 367 A2, Fayetteville 72764 (Res )	751-0196
OPH	Brown, Craig J	Post Office Box 1834, Fayetteville 72702	521-5931
FP	Buckley, Carrie D, Jr	Post Office Box 959, Fayetteville 72702	442-2822
OBG	Buckley, David A	206 South Blair, Springdale 72764	756-0750
PD	Burnside, Wade W, Jr	207 East Dickson, Fayetteville 72701	443-3471
PD	Bush, Martha	2706 American, Springdale 72764	756-5277
IM	Butler, G H	675 Lollar Lane, Fayetteville 72701	521-8200
FP	Capps, James A, Jr	Post Office Box 1203, Fayetteville 72702	521-0610
FP	Challant, Charles H	160-A Poplar, Fayetteville 72701	442-2712
R	Cherry, James F	607 West Maple, Springdale 72764	751-5711, Ext 2443
RD	Clark, P LeMon	1679 Elmwood, Fayetteville 72701 (Res )	521-7657
FP	Clemens, R Dale	304 South Maxwell, Siloam Springs 72761	524-3141
ORS	Coker, Tom P	Post Office Drawer 1608, Fayetteville 72702	521-2752
OBG	Cole, George R	740 Lollar Lane, Fayetteville 72701	521-4433
OBG	Councille, Clifford C, Jr	1011 North College, Fayetteville 72701	442-9809
AN	Covey, M Carl	Post Office Box 800, Gentry 72734	736-8699
AN	Crawford, Perry F	Post Office Box 1621, Fayetteville 72702	521-8843
NEP	Crittenden, David R	100-A East Poplar, Fayetteville 72701	442-5295
OTO	Crocker, Thermon R	4255 Venetian Lane, Fayetteville 72701	521-1238
PD	Decker, Harold A	207 East Dickson, Fayetteville 72701	443-3471
OBG	DeSandre, Frank A	606 South Young, Springdale 72764	751-6284
AN	Dodson, C Dwight	946 California, Fayetteville 72701	443-3387
RD	Dorman, John W	2000 Pin Oak, Springdale 72764 (Res )	751-4527
N	Dow, R W	3000 Market, Fayetteville 72701	442-4070
IM	Duncan, Philip E	675 Lollar Lane, Fayetteville 72701	521-8200
RD	Edmondson, Charles T	Route 2, Box 473-E, Heber Springs 72543 (Res.)	362-2055
FP	Etherington, Robert A	41 Kingshighway, Eureka Springs 72632	253-9746
P	Finch, Stephen B	451 East Township, Fayetteville 72701	443-3491
OTO	Fincher, G Glen	2100 Green Acres Road, Fayetteville 72701	521-3363
ORS	Garbutt, Leopold H	Post Office Box 1790, Springdale 72765	751-6383
RD	Gardner, Buford M	897 Crossover Road, Fayetteville 72701 (Res )	443-3174
D	Ginger, John D	102 West Dickson, Fayetteville 72701	521-2525

Type of Practice	Member's Name	Address	Telephone Number
PTH..	Green, Jess D., Jr	Post Office Box 288, Eureka Springs 72632	253-8070
R .....	Greenhaw, James J.	205 East Jefferson, Siloam Springs 72761	524-4141
R .....	Hackler, Keith	Post Office Box 1286, Fayetteville 72702	521-6480
CD .....	Haisten, James A S	Post Office Box 186, Springdale 72765	756-9185
IM .....	Hall, Joe B	675 Lollar Lane, Fayetteville 72701	521-8200
R .....	Harris, Murray T.	Post Office Box 1286, Fayetteville 72702	521-6480
ORS .....	Harris, W. Duke	Post Office Drawer 1608, Fayetteville 72702	521-2752
OBG .....	Harrison, William F	1011 North College, Fayetteville 72701	442-9809
FP .....	Hart, Hamilton R	767 West North, Fayetteville 72701	521-3600
RD .....	Hathcock, P. Loyce	909 Hall Avenue, Fayetteville 72701 (Res.)	442-4424
PD .....	Haynes, James E.	207 East Dickson, Fayetteville 72701	443-3471
IM .....	Hayward, Malcolm L., Jr	675 Lollar Lane, Fayetteville 72701	521-8200
ORS .....	Heinzelmann, Peter R	Post Office Drawer 1608, Fayetteville 72702	521-2752
RD .....	Henry, L. Murphey	Post Office Box 1267, Fayetteville 72702 (Res.)	442-9366
RD .....	Henry, Louise M	Post Office Box 1267, Fayetteville 72702 (Res.)	442-9366
OPH .....	Henry, Morris M	Post Office Box 1727, Fayetteville 72702	442-5227
IM .....	Higginbotham, Hugh B	675 Lollar Lane, Fayetteville 72701	521-8200
FP .....	Huskins, James D.	304 South Maxwell, Siloam Springs 72761	524-3141
A .....	Hutson, Martha	2100 Green Acres Road, Fayetteville 72701	521-3363
CD .....	Inlow, Charles W	Post Office Box 186, Springdale 72765	756-9185
P .....	Jarvis, Fred D., Jr	219 South Thompson, Springdale 72764	751-7052
NS .....	Johnson, Jorge H.	3000 Market, Fayetteville 72701	443-5245
IM .....	Johnson, Stephen P.	675 Lollar Lane, Fayetteville 72701	521-8200
GS .....	Kendrick, John H	Post Office Box 1519, Springdale 72765	751-3202
PD .....	Lawson, Wilbur G	207 East Dickson, Fayetteville 72701	443-3471
RD .....	Lesh, Ruth E	356 North Washington, Fayetteville 72701 (Res.)	442-2163
RD .....	Lesh, Vincent O.	356 North Washington, Fayetteville 72701 (Res.)	442-2163
AN .....	Lesniak, James L	1391 Edgehill, Fayetteville 72701 (Res.)	443-2459
PTH .....	Litton, Eva W	2520 Stanton Avenue, Fayetteville 72701 (Res.)	521-5690
OBG .....	Lushbaugh, Harmon	740 Lollar Lane, Fayetteville 72701	521-4433
GS .....	Magness, C. R	2059 Green Acres Road, Fayetteville 72701	443-4667
FP .....	Markland, Linda A	241 West Spring, Fayetteville 72701	521-8260
IM .....	Martin, William C.	675 Lollar Lane, Fayetteville 72701	521-8200
OBG .....	Mashburn, James D	207 East Dickson, Fayetteville 72701	442-5377
RD .....	McAlister, Joseph H	Route 4, Box 188, Huntsville 72740 (Res.)	665-2767
	McAllister, Max F	Brownsville, Texas	
OPH .....	McDonald, J. E	461 East Township Road, Fayetteville 72701	521-2555
GP .....	McEvoy, F. E	803 Ouandt, Springdale 72764	751-9236
GS .....	McNair, William R., Jr	2059 Green Acres Road, Fayetteville 72701	521-2654
IM .....	Merritt, James M.	Post Office Box 1906, Fayetteville 72702	521-5731
GS .....	Miller, Charles H	Post Office Drawer A, Fayetteville 72702	521-3300
R .....	Mills, William C., III	Post Office Box 1286, Fayetteville 72702	521-6480
IM .....	Moore, Arthur F	675 Lollar Lane, Fayetteville 72701	521-8200
ORS .....	Moore, James F	Post Office Drawer 1608, Fayetteville 72702	521-2752
GP .....	Moose, John I	304 South Maxwell, Siloam Springs 72761	524-3141
GS .....	Murry, J. Warren	Post Office Drawer A, Fayetteville 72702	521-3300
PTH .....	Nettleship, Mae B	Post Office Box 817, Fayetteville 72702	443-3050
P .....	Nolen, Richard R	8400 Cantrell Road, Little Rock 72207 (Res.)	NF
IM .....	Painter, M. B	675 Lollar Lane, Fayetteville 72701	521-8200
ORS .....	Park, John P	Post Office Drawer 1608, Fayetteville 72702	521-2752
OPH .....	Parker, Joe C.	700 South Young, Springdale 72764	751-1028
FP .....	Parker, Lee B., Jr	241 West Spring, Fayetteville 72701	521-8260
FP .....	Patrick, James K	241 West Spring, Fayetteville 72701	521-8260
U .....	Pickett, James D	Rt. 9, Box 219, Fayetteville 72701	521-8980
GP .....	Power, John R	220 Meadow, Springdale 72764	751-4637
FP .....	Proffitt, Danny L	241 West Spring, Fayetteville 72701	521-8269
FP .....	Puckett, Billy J	304 South Maxwell, Siloam Springs 72761	524-3141
GYN .....	Rabon, Nancy A.	Evelyn Hills Shopping Center, Fayetteville 72701	442-8261
R .....	Riddick, Earl B., Jr	57 Colt Square, Fayetteville 72701	521-6480
R .....	Riner, Dan M	607 Maple, Springdale 72764	751-5711, Ext. 240
FP .....	Rodriguez, Jose H	41 Kingshighway, Eureka Springs 72632	253-9746
OBG .....	Romine, James C.	740 Lollar Lane, Fayetteville 72701	521-4433
FP .....	Rouse, Joe P	767 West North, Fayetteville 72701	521-3600
NS .....	Runnels, Vincent B	Post Office Drawer 1608, Fayetteville 72702	521-2752
FP .....	Sexton, Giles A	Post Office Drawer 4275, Fayetteville 72702	521-5894
U .....	Shaddox, T. Stephen	Route 9, Box 219, Fayetteville 72701	521-8980
OPH .....	Sharp, Jim D	102 West Dickson, Fayetteville 72701	521-4949
RD .....	Siegel, Lawrence H	233 Oakwood, Fayetteville 72701 (Res.)	442-2083
OPH .....	Singleton, E. Mitchell	Post Office Box 908, Fayetteville 72702	521-4843
IM .....	Sisco, Charles P	Post Office Box 65, Springdale 72765	751-4579
GP .....	Smith, Austin C	Post Office Box 1049, Huntsville 72740	738-2115
CHP .....	Stilwell, R. Bronson	4171 Crossover Road, Fayetteville 72701	521-5076
FP .....	Stinnett, Charles H.	304 South Maxwell, Siloam Springs 72761	524-3141
GE .....	Tice, Howard L.	100-A East Poplar, Fayetteville 72701	442-5295
FP .....	Tuttle, Larry D	22 East Spring, Fayetteville 72701	443-3417
FP .....	Vinzant, John W	22 East Spring, Fayetteville 72701	443-3417
R .....	Ward, H. Wendell	Post Office Box 1786, Fayetteville 72702 (Res.)	521-6556
FP .....	Weaver, Robert H	Post Office Box 9, Gentry 72734	736-2213
GP .....	Wheat, Ed, Jr.	130 North Spring, Springdale 72764	751-5704
FP .....	Whiting, Tom D	803 Ouandt, Springdale 72764	751-9236
GP .....	Wilson, Robert B., Jr	Post Office Box 1049, Huntsville 72740	738-2115
FP .....	Wilson, Steven C.	767 North, Fayetteville 72701	521-3600
GS .....	Wood, Jack A	Post Office Drawer A, Fayetteville 72702	521-3300

#### WHITE COUNTY

FP .....	Baker, Ronald L	2900 Hawkins Drive, Searcy 72143	268-5364
R .....	Bell, John E.	1300 South Main, Searcy 72143	268-8500
GS .....	Blue, Glen T	Post Office Box 159, Searcy 72143	268-2441
CD .....	Blue, Leon R.	2900 Hawkins Drive, Searcy 72143	268-5364
GP .....	Bridges, Michael W	Post Office Box 350, Bald Knob 72010	724-5197
RD .....	Brown, Arnold R	1105 Dobbins Drive, Searcy 72143 (Res.)	268-2545
FP .....	Citty, Jim C.	2900 Hawkins Drive, Searcy 72143	268-5364
IM .....	Covey, David C	2900 Hawkins Drive, Searcy 72143	268-5364
GP .....	Edwards, Hugh R.	1300 South Main, Searcy 72143	268-5361
R .....	Elliott, Robert E.	1300 South Main, Searcy 72143	268-8500
	Farrar, Henry C.	Nigeria, Africa	
IM .....	Fincher, S. Clark	2900 Hawkins Drive, Searcy 72143	268-5364
FP .....	Formby, Thomas A	2900 Hawkins Drive, Searcy 72143	268-5364
OBG .....	Gardner, Jack R	2900 Hawkins Drive, Searcy 72143	268-5364
GS .....	Gibbs, William M	2900 Hawkins Drive, Searcy 72143	268-5364
PTH .....	Golleher, James H	Post Office Box 1128, Searcy 72143	268-7186
ORS .....	Green, Terry G	910 East Race, Searcy 72143	268-8677
CD .....	Henderson, John C.	Post Office Box 77, Searcy 72143	268-7557
GP .....	Jackson, Clarence W	Post Office Box C, Judsonia 72081	729-3435
IM .....	Johnson, David M	2900 Hawkins Drive, Searcy 72143	268-5364
FP .....	Joseph, Eugene A	1300 South Main, Searcy 72143	268-7143



Type of Practice	Member's Name	Address	Telephone Number
FP	Killough, Larry R	1300 South Main, Searcy 72143	268-7143
FP	Kinley, J. Garrett	Post Office Box D-2, Beebe 72012	882-3388
FP	Koch, C. W., Jr	1407 East Race, Searcy 72143	268-5845
PD	Lewis, James S	1300 South Main, Searcy 72143	268-0707
OPH	Lowery, Ben R	408 West Vine, Searcy 72143	268-7154
OPH	Lowery, Robert D	408 West Vine, Searcy 72143	268-7154
GP	Maguire, Frank C. Jr	Post Office Box 500, Augusta 72006	347-2131
ORS	McCoy, James R	302 West Center, Searcy 72143	268-4168
U	Meacham, Kenneth R	1300 South Main, Searcy 72143	268-4313
OPH	Nevins, William H	Post Office Box 1054, Searcy 72143	268-2201
FP	Norris, E. Lloyd	Post Office Box D-2, Beebe 72012	882-3300
FP	Ransom, Clarence E., Jr	1407 East Race, Searcy 72143	268-5845
D	Rasberry, Ronnie D.	Post Office Box 177, Searcy 72143	268-4322
GS	Rodgers, Porter R., Jr	Post Office Box 159, Searcy 72143	268-2441
GS	Sanders, John K.	2900 Hawkins Drive, Searcy 72143	268-5364
GP	Short, W. Harold	Post Office Box 340, Beebe 72012	882-5561
GS	Simpson, James A	1300 South Main, Searcy 72143	268-2441
GP	Smith, Bernard C	Post Office Drawer C, Bradford 72020	344-2788
N	Smith, Bob W.	Post Office Box 858, Searcy 72143	268-9815
FP	Slaggs, David L.	2900 Hawkins Drive, Searcy 72143	268-5364
PD	Stinnett, J. L.	2900 Hawkins Drive, Searcy 72143	268-5364
GP	Tate, Sidney W.	2900 Hawkins Drive, Searcy 72143	268-5364
CD	Weathers, Larry W	Post Office Box 20, Searcy 72143	268-9869
IM	White, William D	2900 Hawkins Drive, Searcy 72143	268-5364

WOODRUFF COUNTY

GP	Hendrixson, Basil E	Post Office Box J, McCrory 72101	731-5525
FP	Rowe, James E	Post Office Box 387, McCrory 72101	731-2511

YELL COUNTY

RD	Bull, L. J.	Route 1 West, Box 166-C, Ola 72853 (Res.)	272-4757
RD	Draeger, Louis A	Post Office Box 638, Danville 72833 (Res.)	495-2770
GP	Edmondson, Rogers P	Post Office Box 490, Danville 72833	495-7331
GP	Harris, Walter P	Post Office Box 490, Danville 72833	495-2714
FP	Hodges, Jerry F	Post Office Box 337, Dardanelle 72834	229-4172
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## Recent Trends in Immunotherapy

Joe W. Matthews, M.D.\*

Several new developments in the diagnosis and treatment of allergic respiratory disease have taken place during the past decade. These changes point towards immunotherapy which will be more precise and predictable as well as less inconvenient and less expensive.

Reagenic antibody was identified and named IgE in 1967. Shortly thereafter an in vitro test called RAST, or radioallergosorbency test, was developed. This test allowed the measurement of specific serum antibodies for specific antigens (i.e. ragweed, grass, house dust, etc.). Unfortunately, the state of the art of the test is such that certain technical problems limit its usefulness in clinical situations. The RAST test is relatively expensive compared to standard allergy skin tests. Another problem is that it measures IgE in the serum which is only a small proportion of the total IgE, most of which is cell bound.

Nevertheless, the RAST test enables us to measure the effects of immunotherapy which include production of IgG blocking antibodies and the suppression of IgE antibody production. Both immunologic changes occur during the course of allergy injection therapy, but neither correlates completely with symptomatic improvement.<sup>1</sup> In addition, the allergic release of histamine from sensitized leukocytes is inhibited in some but not all patients receiving allergy injections. This effect is apparently not immunologic in nature.

Most of our present skin testing is performed using airborne allergens identified many years ago by gravimetric sampling. This information is not quantitative and gravimetric techniques may have excluded certain antigens of small particulate size. Improved methods of sampling the atmosphere for allergens include the Rotobar sampler and the air suction trap. Both of these devices make quantitative volumetric measurements in-

cluding very small particles, which will aid in allergen identification.<sup>2</sup>

The diagnosis and treatment of allergic respiratory diseases should be greatly enhanced by attempts to purify, characterize, and standardize allergic antigens. Most antigens are complex protein molecules with only a small percentage of the total protein actually significant as far as allergy is concerned. Ragweed and hymenoptera venom have been the most extensively studied antigens. Drs. Norman and King have isolated antigen E of ragweed which is apparently the major allergenic antigen of the more than 36 antigens found in crude ragweed extract. Almost all ragweed sensitive patients will show a positive skin test reaction for antigen E although they may also show positive reactions for other minor ragweed antigens.<sup>3</sup> Isolation of antigen E at the present time is tedious and expensive which precludes its use clinically in treatment. Individual extract lots of ragweed can be assessed for antigen E content. Bee venom allergenic activity apparently resides primarily in the Phospholipase A fraction of the venom.<sup>4</sup>

In March 1982 at the American Academy of Allergy Meeting in Montreal, Canada, it was announced that a committee would be appointed to set international standards for allergy extract potency. New techniques have been developed which measure the antigenic potency of the extract, rather than its total protein content. One test under study is the ability of antigens to inhibit the RAST test using pooled serum samples of known IgE content.<sup>5</sup> Hopefully the Committee on Standards will initiate guidelines using the RAST inhibition test and other measurements to standardize antigens for testing and treatment.

A large number of double-blind control studies have been performed to evaluate the effectiveness of allergy injection therapy and the treatment of allergic respiratory diseases and for insect venom

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therapy. These studies show convincing evidence of therapeutic efficacy for antigens of ragweed, grass pollen, birch, mountain cedar, house dust mite, and the various hymenoptera venoms.<sup>6</sup> Effectiveness of immunotherapy for mold allergy has been more difficult to demonstrate. Immunotherapy is not effective in the treatment of food allergy. In the case of systemic hymenoptera venom therapy, hyposensitization is successful in over 95% of the cases treated.<sup>7</sup>

One interesting finding of many recent studies is the total lack of evidence that allergy injections have strong placebo effects. Caramelized saline containing histamine was given to allergic individuals and their symptoms compared to the untreated patients and patients treated with allergy extracts. Treated patients showed definite improvement while those that received placebo have symptom medication scores which were no better than the untreated patients.<sup>8</sup>

Despite their effectiveness for many allergic conditions, allergy injection therapy has several significant disadvantages. Current injection regimens require multiple injections and frequent office visits resulting in poor patient compliance because of inconvenience and expense. Local reactions and occasionally systemic reactions can present problems. Several new modified allergens for immunotherapy have been developed recently in an attempt to minimize these problems. Allergoids and polymerized glutaraldehyde extracts are now subjects for licensure by the Food and Drug Administration. These extracts seem to be able to effect the same beneficial immune responses (increased blocking antibody and decreased IgE production) as the currently used aqueous extracts. There is both a lower incidence of allergic reactions to those extracts and total number of injections are significantly reduced with both.

Treatment of ragweed antigen with glutaraldehyde results in long polymer chains ranging in molecular weight from 200,000 to 20,000,000. Monomeric ragweed has a molecular weight of 38,000. Because many of the antigenic determinants are bound up in a chain there are smaller numbers available to combine the sensitized mast cells to produce an adverse allergic reaction. Nevertheless, the extract retains its ability to stimulate blocking antibody production and suppress IgE production. Glutaraldehyde extract has

been tried in large numbers of patients with ragweed hay fever and it is well tolerated and clinically effective.<sup>8</sup> At the present time polymerized extracts for grass, tree, and bee venom are under investigation. Clinical trials with these extracts are not as advanced as with the ragweed extract.

Formalin treatment of antigens alters the antigenic material in much the same way that a toxin is altered to a toxoid. Allergoids do not contain the long polymer chains that are found in the glutaraldehyde extract. Nevertheless, allergoids have been used effectively in treating respiratory allergies for almost ten years.<sup>9</sup> Maintenance dosages can be reached with as few as six office visits and the maintenance dosage can be maintained with approximately six yearly visits to the office. Systemic reactions to allergoids have been reported but they are apparently much less frequent than with aqueous extracts.

Recent exciting application of allergoid has been the intranasal use of these modified allergens. Preliminary data is encouraging for the intranasal immunotherapy concept.<sup>10</sup> It is anticipated that allergoids and glutaraldehyde extracts will be commercially available for at least a few antigens within the next five years.

Newer antigens are under investigation which theoretically have no allergenic potential whatsoever. These extracts supposedly directly stimulate suppressor T cells which in turn act to shut off production of IgE by plasma cells. This approach offers a great deal of potential in effecting a "cure", but time will be required to demonstrate safety and efficacy.

The next few years offer the possibility of exciting new developments in the treatment of inhalant allergic disorders.

#### REFERENCES

1. Norman, P. S., and Lichtenstein, L. M.: The Clinical and Immunologic Specificity of Immunotherapy, *J. Allergy Clin. Immunol.*, 61: 370, 1978.
2. Solomon, W. R., and Mathews, K. P.: Aerobiology and Inhalant Allergens, Chap. 50 in *Allergy: Principles and Practice*, (Middleton, E., Reed, E., and Ellis, E., Eds.), St. Louis, 1978, The C. V. Mosby Co.
3. Norman, P. S., Lichtenstein, L. M., and Ishizaka, K.: Diagnostic Tests in Ragweed Hay Fever, *J. Allergy Clin. Immunol.*, 52: 210, 1973.
4. Reisman, R. E.: Insect Allergy in Middleton, E., Reed, C. E., and Ellis, E. F., (Eds.): *Allergy: Principles and Practice*. St. Louis: The C. V. Mosby Co., 1978.
5. Yunginger, J. W., Jones, R. T., and Gleich, G. J.:



- Studies on *Alternaria* Allergens. II. Measurement of the Relative Potency of Commercial *Alternaria* Extracts by the Direct RAST and by RAST Inhibition, *J. Allergy Clin. Immunol.*, 58: 405, 1976.
6. Norman, P. S.: Using Immunotherapy to Treat Respiratory Allergy, *J. Resp. Diseases*, p. 25, 1982.
  7. Hunt, K. J., Sobotka, A. K., Amodio, F. J., et al: A Controlled Trial of Immunotherapy in Insect Hypersensitivity, *N. Engl. J. Med.*, 299: 257-261, 1978.
  8. Grammer, Leslie C., Zeiss, C. R., Snsko, Trena M., Shaughnessy, Martha A., and Patterson, Roy M.: A Double-Blind Placebo-Controlled Trial of Polymerized Whole Ragweed for Immunotherapy of Ragweed Allergy, *J. Allergy Clin. Immunol.*, 69: 494-499, 1982.
  9. Norman, P. S.: An Overview of Immunotherapy: Implications for the Future, *J. Allergy Clin. Immunol.*, 65: 87-96, 1980.
  10. Georgitis, J. W., Mueller, U. R., Clayton, W. F., Kane, J., Wypych, J. I., Reisman, R. E., and Arbseman, C. E.: Local Nasal Immunotherapy (LNIT) for treatment of Grass Pollenosis, *J. Allergy Clin. Immunol.*, 69: 100, 1982.



# A Physician Looks at Nursing\*

Ben N. Saltzman, M.D.\*\*

I first became aware of nursing as a profession in the late 1930's when, as a medical student, I started dating nurses. I soon learned that at that time they earned eighty dollars per month for a twelve hour shift, six days per week. They were required to buy their own uniforms, but did get their meals free. Of course, this was at a time when an intern was being paid thirty dollars per month if he happened to be lucky. However, I also learned that these were dedicated people who had a real love for their profession and for the people they served. It was a disciplined profession with strict rules of behavior, dress and schedule. The physician was lord and master. One stood at attention in his presence and he never made rounds alone. Yet there was mutual respect. The physician knew that his patients were receiving personal care and that his orders were being carried out to the letter. The relationship was one to one. For each individual patient, the team was the doctor and the nurse and there were no in-betweens.

Of course, those were less complicated times. There were very few clerical tasks, fewer technical procedures and certainly fewer regulations. The nurse knew each patient intimately because she had the opportunity of officiating during the bed bath and back rub. She administered the medications herself and recognized their effect or lack thereof. Even with a twelve hour day, I did not see how they could find time to do all the things they did. Yet, they seemed to love what they were doing.

Following my internship, residency and military service during World War II, I came to Mountain Home, Arkansas, a small, rural community in the northern part of the state, to start a general medical practice. In those days, we had to build a practice. I slowly began to acquire patients but the approval process seemed to drag. I soon learned that my ministrations were subject to review. My recommendations and prescriptions were being scrutinized by a registered nurse in the community who had the confidence and respect of everyone. Fortunately, she approved of what I was doing and my practice began to grow.

The smartest thing I ever did in my life was to get her to join me. It seems that things really got busy then. She was invaluable. She would counsel the patients and their families. She would prepare sterile obstetrical packs and we would go out into the country-side to deliver babies in their home. She ordered supplies, triaged the numerous drug detail-men, answered annoying telephone callers, advised me concerning the family problems of my patients, helped the members of my own family and performed myriad tasks, too numerous to mention here. To me, she epitomized nursing at its best. She was a warm human being who reflected the confidence that people had in her and in nursing in general. Unfortunately, she died of a malignancy a few short years after our association.

During those same early years of practice, I experienced another phenomenon related to nursing. I became acquainted with the public health nurses in Baxter County. Once again, I saw dedication in its truest form. These ladies knew every family in the county and at some time or other had done something for each one. In the same way, they performed invaluable services for me as a practicing physician. We formed a bond devoted to the provision of health services to the people of our area that has lasted to this day. I learned about public health from them. Working hours meant very little to them. They were available at all hours providing transportation to patients, finding immunization sera, providing blood plasma from civil defense stores, lending a hand in emergencies, ferreting out people in need of health care, doing TB skin tests and following up on patients' families and performing innumerable tasks not called for in the manual. These individuals were truly dedicated. Most certainly a love of humanity was central to their seeking employment in this form of nursing care. I know that it could not have been the state salary level.

I built a private hospital to serve the community early in my practice. It was at a time when small communities felt no obligation to build their own. Once again I was impressed with the services provided by dedicated, caring nurses. We were beginning the five-day week and the eight-hour shift but the nurses usually worked as long as their presence was needed. In this small hos-

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pital I could see the personal care provided by the nurses. They were tireless, and the community benefited. I always had a difficult time convincing patients that they had to be referred to larger medical centers. They wanted to remain with the people they knew and trusted.

With the opening of our community hospital fifteen years later, things began to change. For one thing, it was larger and required a larger staff. Federal regulations required more and more administrative meddling to the point that the nurses who were not involved in intensive care activities were spending most of their time filling out forms, adjusting schedules, supervising, explaining financial obligations, discussing legal aspects, policing corridors, seeking other jobs and anticipating nervous breakdowns. Closeness to the patient began to disappear. This task was becoming part of the work of the licensed practical nurse and the aides. One thing was certain. No nurse ever again stood up in the presence of the physician. In fact, today's physician would be startled at such behavior.

An era of specialization had begun. The nurses who could still provide direct patient care were those working in coronary care units, intensive care units and dialysis units. Nurse practitioners were developing into pediatric, obstetrical, surgical, psychiatric and other specialists.

Today, in general, employment conditions in the hospitals have improved. Salaries and working hours are reasonable and opportunities for upward mobility are increasing. However, closeness to the patient is becoming a thing of the past. Somehow, I have always felt that the reason that one becomes a nurse is the desire to serve directly the individual who cannot serve himself. Otherwise, the occupation makes no sense. It is harassing, still underpaid, often unpleasant, often thankless and too often boring. To overcome the problem of keeping nurses away from direct patient care, many innovative efforts and changes are taking place. The process is called releasing nursing time or releasing nurses from non-nursing duties for attention to patients. We are well acquainted with the use of ward secretaries and unit managers or coordinators. The use of data processing equipment is another well utilized method. The use of pharmacists as consultants to physicians and nurses for purposes of observation, drug preparation and administration is gaining in popularity.

Unfortunately, from the physician's viewpoint, some of the release of nursing time is leading to over-utilization of licensed practical nurses in most aspects of nursing care and the assumption of consultant roles on the part of nurses. Actually, most physicians would prefer to consult with each other and would like nurses to do nursing tasks. The medical profession is not enamoured of the changing nursing roles. It looks with nostalgia on the good old days and wishes they would come back. Even the new physicians would prefer to have competent registered nurses performing nursing duties in our hospitals.

Today, increasing emphasis is being placed on increasing the educational requirements for nursing. A bachelors degree is the least of the mandates. Masters level and Ph.D. level nurses are being sought. We can agree that highly educated nurses are necessary for educational institutions, but it is my feeling that we still need more Indians and less chiefs. The only effective way to relate directly to the patient is on a one to one basis. This applies to the physician as well as to the nurse. All the supervision and consultation in the world cannot accomplish what a friendly hand and backrub can do.

However, let me get off my soap box and look at other aspects of nursing. In Arkansas, obstetrical care is beginning to be neglected. Our younger physicians who serve in the smaller communities of our state are not anxious to do obstetrics. This particularly applies to the Family Physician. Obstetricians per se cannot earn a living in the rural communities. It is my feeling that what we need in the state is a cadre of registered nurse midwives, who are well trained and willing to work under the supervision of competent obstetricians. We have a program going in the eastern part of our state that is effectively lowering the new-born mortality rate and providing excellent care for a very needy population. In a visit to England a few years ago, I discovered that this program was the best thing being done in health care in that country.

Today, we are experiencing an increase in the need for health care in our aging population. People are living longer, and many are becoming enfeebled because of advancing age. We need quality nursing in our extended care facilities. Home health care is becoming a way of life for financial reasons and because most older people would prefer to stay at home. Well prepared

Home Health Nurses are required to care for these people. In the same way, long term care at home requires the supervision of well trained Home Health Nurses, both for the Home Health Aides and for the family members.

Well trained nurses are also required in physicians' offices, in outpatient hospital departments, in ambulatory care centers, in emergency rooms, and in neighborhood comprehensive health centers.

The mental health movement has grown in recent years. Mental illness has come out of the closet. Today, community mental health centers or satellite centers have sprung up in most of our Arkansas communities. They provide ambulatory as well as hospital services for most regions of the state. Well trained nurses are necessary to provide specific care to an expanding population troubled with mental illness. Well trained nurses in these centers function also as counselors in preventing problems. Nurses can serve in the care of day patients, outpatients, families, half-way house clients and vocational rehabilitation patients. For years, nurses have served as manpower for industrial clinics. Today, more than ever, industry depends upon nurses for emergency services, examinations, minor treatment and triage.

The role of Physician's Assistant is becoming more prominent today. If I were to go back to private practice today, I believe that I would prefer nurse assistants to a partnership of physicians. Physicians have always worked well with nurses in their practices. Specially trained assistants would be invaluable.

Now let's get back to Public Health. My job today is Director of the Arkansas Department of Health. I have had the opportunity of visiting many county health departments over the state. In every one, I have seen the same dedication and competence I experienced in Baxter County

thirty-five years ago. The nurses love their patients and the patients love their nurses. Most of the nurses have had long tenures of service. The new nurses are quickly caught up in the satisfaction derived from their experiences in the one-to-one contact with the people they serve. This is the type of nursing they wanted to do when they opted to become nurses. We all retain humanitarian impulses that make us part of the human race. We must not lose them.

A concerted effort is being made to change the nurses' role in society. The desire for change comes from within the hierarchy of the nursing profession. I do not believe that the majority of nurses want to be substitute physicians. While it is true that our population is growing and that advancing technology requires the utilization of more and more people, I do not believe that these people have to be our nurses. Our hospital administrators in Little Rock tell me that there is a severe shortage of nurses in the city. This includes LPN's as well as RN's. At times, sections of these hospitals are closed off because of a lack of nurses.

As a physician, I hope that you nursing students will pursue your careers with energy and enthusiasm. As you can see, there is a whole world in front of you; a world of service. The options are innumerable. To those already practicing the profession of nursing, please stick to what you are doing. We need you badly and you are appreciated. Encourage others to follow in your footsteps. It is an honorable profession.

I want changes to take place, but not at the expense of personal service to our citizens. Washington Irving once wrote: "There is a certain relief in change, even though it be from bad to worse; as I have found in traveling in a stagecoach, that it is often a comfort to shift one's position and be bruised in a new place." Let's not seek that kind of relief.







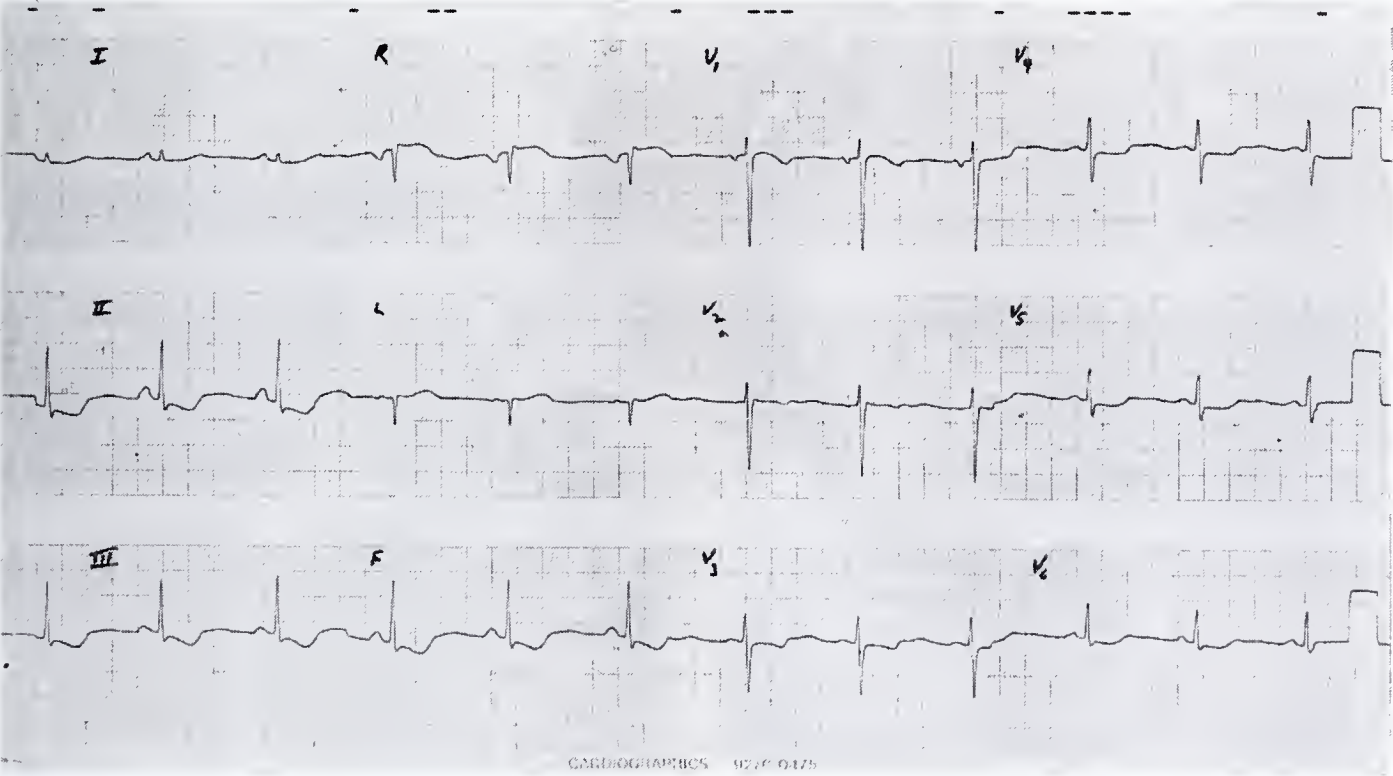
**ELECTROCARDIOGRAM**

**OF THE MONTH**

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 373)

**HISTORY:** F. H. is a 50-year-old woman with a strong history of ethanol abuse and is currently on therapy for cirrhosis. She has presented to the hospital because of weakness and cramps. Shown here is her electrocardiogram. How would you treat her?



Andy Henry, M.D., and John W. Watson, M.D.  
UAMS-LRVAMC Division of Cardiology  
Little Rock, Arkansas

# Office Orthopaedics

## Problems of the Knee Extensor Mechanism

Richard A. Nix, M.D.\*

### Problems of the Knee Extensor Mechanism

Injuries to the knee extensor mechanism are encountered almost daily in the practice of both family practitioners and orthopedists. The active force of this mechanism is provided by the quadriceps femoris muscle. The remaining passive components of this biomechanical linkage include the quadriceps tendon, patella and patellar tendon (see Figure 1). Its location and function make it susceptible to both sudden violent trauma (direct and indirect) and repetitive submaximal trauma. A review of the anatomy and function of this entire mechanism will hopefully aid in the diagnosis and management of its many problems.

### Anatomy and Function

The quadriceps muscle is composed of the vastus lateralis, vastus intermedius, vastus medialis and rectus femoris muscles. The straight and reflected heads of the rectus femoris originate on the bony pelvis, therefore traversing the hip joint. The remaining three heads originate along the shaft of the proximal femur. The central two tendons (rectus femoris and vastus intermedius) are understandably the most efficient extensors. Traditionally the vastus medialis has been held to effect the final fifteen degrees of extension. Laboratory studies by Lieb and Perry contradicted this.<sup>5</sup> They found the medial muscle to be a primary stabilizer for patellar alignment rather than a significant extensor force. The low insertion, thin fascial covering and oblique fiber orientation of the vastus medialis obliquus all contribute to its prominence above the knee. Early VMO atrophy is felt to be a reflection of generalized quadriceps atrophy. During extensor rehabilitation its rapid hypertrophy is a useful parameter

to follow. Full extension of the knee against gravity requires 60% of total quadriceps function. Atrophy beyond this level results in an extensor lag during straight leg raising.

During normal stance much of the body weight is supported by the skeleton and joint capsules. In flexed-knee stance the quadriceps must work to stabilize the knee. In thirty degrees of flexion,



Figure 1.

The knee extensor mechanism: quadriceps femoris, quadriceps tendon, patella, patellar tendon.

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50% of the total quadriceps strength is required simply for standing.<sup>6</sup> This is clinically significant if previous injury or disease has resulted in a measurable knee flexion contracture.

The mechanical function of the patella is demonstrated in Figure 2. This sesamoid bone serves to displace the pull of the quadriceps and patellar tendons anteriorly, therefore increasing the moment arm for knee extension. This becomes especially significant near terminal extension of the knee. A patellectomy decreases this moment arm and postoperatively the quadriceps muscle may require up to 30% more force to effect extension of the knee.<sup>4</sup>

### Injuries to the Extensor Mechanism

#### Quadriceps Contusion

This direct trauma is usually the result of a football helmet or knee to the anterior thigh. A classification system as outlined by Jackson and Feagin is presented (see Table I).<sup>3</sup> Early aggressive

Table I

#### Classification of Quadriceps Contusions

Mild — local tenderness, knee motion over 90 degrees, normal gait, able to deep knee bend

Moderate — swollen mass, considerable pain, knee motion less than 90 degrees, antalgic gait

Severe — marked swelling, often with knee effusion, knee motion less than 45 degrees, requires crutches due to pain

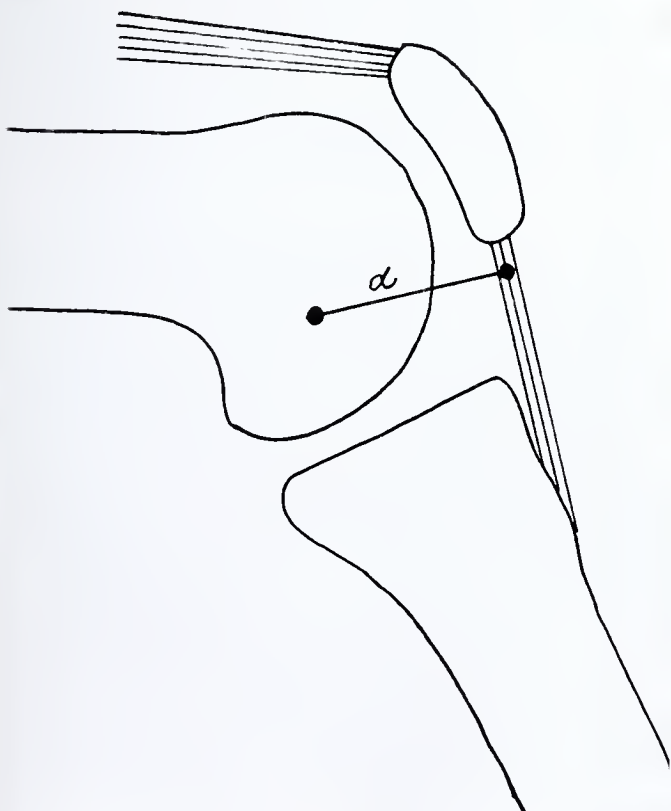


Figure 2.

The patella improves knee extension torque by lengthening the moment arm (d).

treatment with elevation, bed rest, ice packs and a gentle compressive wrap is vital for 24 to 48 hours depending on severity. Following this, range of motion, therapy and local heat is advised. Strict avoidance of forced knee flexion is important. After ninety degrees of knee motion is obtained then progressive resistance exercises complete the rehabilitation phase. Some patients with quadriceps contusions will develop traumatic myositis ossificans (see Figure 3). As a result of



Figure 3.

Maturing myositis ossificans is frequently seen in the quadriceps muscle following blunt trauma.

trauma, localized ossification of muscle and connective tissue occurs. This can be identified on x-ray between two and four weeks following injury. X-rays show the extraosseous bone is usually attached to the underlying bone. X-rays show serial maturation of this mass usually beginning peripherally and progressing centrally. Treatment is essentially the same as outlined above for isolated quadriceps contusion.

### **Quadriceps Muscle Strain**

An indirect form of trauma to the quadriceps occurs with overstretching of the muscle belly and resultant tearing of muscle fibers. This usually occurs in the athlete suddenly during a violent contraction of the muscle after an insufficient warm-up. A muscle strain or "pulled muscle" may be acutely quite painful. The principles of management in this setting include 24 to 48 hours of intermittent icing along with a gentle compressive dressing. Following this acute phase, quadriceps stretching and progressive resistance exercises may be instituted until full recovery.

### **Quadriceps Tendinitis and Tendon Rupture**

The insidious development of a chronic aching pain superior to the patella is usually diagnosed as quadriceps tendinitis. This is most frequently an overuse syndrome seen in running sports. Aggravating factors include excessive strain on the extensor muscles such as hill running, especially downhill. Another important factor is the minimal but very repetitive trauma in high mileage running. Management of this condition depends on the degree of severity. Simple modification of training techniques as noted above may be sufficient to minimize symptoms. Anti-inflammatory medication and enforced rest may be necessary in more severe cases.

Sudden indirect trauma such as shooting a basketball jumpshot violently may result in acute suprapatellar pain. Complete rupture of the quadriceps tendon must be suspected in this clinical setting. Diagnostic signs include a palpable defect in the suprapatellar area at the site of insertion of the quadriceps tendon. Additionally, the patient will demonstrate inability to extend the knee in spite of palpable quadriceps contraction. Incomplete ruptures occur occasionally and may be treated successfully by immobilization in a cylinder cast for six weeks. The complete rupture, however, is a surgical problem and early

diagnosis is important. Surgical reconstruction of neglected cases or delayed diagnosis are complicated by shortening of the unconstrained quadriceps muscle belly. Occasionally a patient may fail to recognize his or her degree of impairment, and continue to function by substitution maneuvers. Without active knee extensor power, standing in slight genu recurvatum (backknee) is relatively easy. On questioning, however, these patients have marked difficulty descending stairs and always ascend stairs by leading with the uninjured leg. Spontaneous rupture of various tendons is recorded throughout the literature, and frequently has been associated with various metabolic disorders such as systemic lupus erythematosus, hyperparathyroidism and rheumatoid arthritis.

### **Fractures of the Patella**

The patella is the largest sesamoid bone in the body, occurring in the midportion of the quadriceps tendon over the distal femur. Its mechanical function has been described earlier as a means of improving the extensor force of the quadriceps muscle (see Figure 2). A fracture with displacement can disrupt the extensor chain just as a quadriceps tendon rupture does (see Figure 4). Additionally fractures of the patella are invariably intra-articular, and therefore may result in joint incongruity and premature osteoarthritis of the patellofemoral joint. It is important to note that in displaced patellar fractures as demonstrated in Figure 4, extensive tearing of the retinaculum lateral and medial to the patella has occurred — this completes the disruption of the extensor mechanism.

The intra-articular extension of patellar fractures demands anatomic reduction. Because of this, surgery is frequently required. The most effective techniques of surgical repair usually consist of combinations of small Kirschner wires drilled to stabilize the fragments coupled with stainless steel cerclage wires. Unfortunately, comminuted fractures are frequent and usually require complete patellectomy. The biomechanical implications of this have been discussed earlier.

### **Patellar Subluxation and Dislocation**

Malalignment of the extensor mechanism becomes symptomatic at the level of the patella. Lateral patellar subluxation and dislocation is attributed to several anatomic variations: excessive genu valgum, patella alta, insufficient lateral





Figure 4.

This displaced patellar fracture completely disrupts the biomechanical chain — no extension is possible.

femoral condyle, lateral insertion of the patellar tendon and several other anatomic quirks.<sup>2</sup> Direct trauma to a normal knee may cause patellar dislocation or subluxation. Common symptoms include patellar pain (especially medial), giving way, swelling and sensations of popping, locking or grating in the patellofemoral joint. Objective signs of a recurrent subluxing patella include a visibly lateral posture of the patella in ninety degrees of knee flexion. Passive subluxation of the patella in thirty degrees of flexion is possible and associated with a severe discomfort on the part of the patient. This is termed the "apprehension test." Radiographically, a tangential or Hughston view is most helpful to identify malalignment and lateral subluxation. Quadriceps rehabilitation is of vital importance in managing this problem of pathologic patellar tracking. As described earlier, the vastus medialis obliquus has a primary role in stabilizing patellar tracking. This responds nicely to quadriceps rehabilitation exercises and should be pursued vigorously. Patients whose symptoms are refractory to a vigorous rehabilitation program may require surgical correction of underlying abnormalities. An acutely dislocated patella should be reduced manually either with IV sedation or under general anesthetic and immobilized in full extension for six

weeks. Again, quadriceps rehabilitation is of the utmost importance.

#### Patellar Tendinitis and Tendon Rupture

Tendon inflammation at the inferior pole of the patella is quite common and usually associated with jumping sports which require violent knee extension. Post exercise icing and anti-inflammatory agents will relieve milder cases. Intratendinous cortisone injections attenuate tendon strength and should be avoided in this location.

Spontaneous rupture of the patellar tendon has been reported in cases of violent trauma (direct and indirect), metabolic disorders (as discussed earlier) and following cases of chronic longstanding tendinitis. Just as with quadriceps tendon rupture, this is a surgical problem and should be treated in a matter of days before muscular shortening precludes a satisfactory repair. This soft tissue problem is easily diagnosed on lateral knee x-ray because of a markedly high-riding patella (see Figure 5).

For simplicity and convenience, orthopedic problems have traditionally been isolated to a single muscle, tendon or bone. This is effective in reviewing key points of anatomy, but often fails to integrate function of the limb as a whole. The extensor mechanism is a biomechanical linkage in which the functional components must be con-



Figure 5.

A complete laceration of the patellar tendon is evidenced by the high-riding patella.

sidered as a single unit. Understanding the function of this mechanism as a unit is the key to *successful functional rehabilitation*. It should be noted that this model as related to knee extension can be viewed on a larger scale along with other biomechanical units to explain function of the extremity as a whole.

#### BIBLIOGRAPHY

1. Edmonson, A. S. and Crenshaw, A. H., ed.: *Campbell's Operative Orthopedics*, Volumes 1 & 2, St. Louis, Missouri, C. V. Mosby Company, 1980.
2. Hughston, Jack C.: *Subluxation of the Patella*, *Journal of Bone and Joint Surgery*, 50:1003-1026, July 1968.
3. Jackson, D. W. and Feagin, John A.: *Quadriceps Contusions in Young Athletes*, *Journal of Bone and Joint Surgery*, 55:95-105, January 1973.
4. Kaufer, Herbert: *Mechanical Function of the Patella*, *Journal of Bone and Joint Surgery*, 53:1551-1560, December 1971.
5. Lieb, F., and Perry, J.: *Quadriceps Function*, *Journal of Bone and Joint Surgery*, 50:1535-1548, December 1968.
6. Perry, J., et al: *Analysis of Knee-Joint Forces During Flexed-Knee-Stance*, *Journal of Bone and Joint Surgery*, 57:961-967, October 1975.
7. Rockwood, Charles A. and Green, David P., ed.: *Fractures*, Volume 2, Philadelphia, Pennsylvania, J. B. Lippincott Company, 1975.







## The Arkansas Venereal Disease Program Historical Sketch and Current Trends

Harold G. Van Patten\*

The venereal disease control program as we know it today developed in the early 1950's with the closing of the Rapid Treatment Centers. Penicillin therapy made it possible to treat syphilis on an outpatient basis and the role of the specialized health worker changed. Caseloading, keeping patients under lengthy treatment schedules, was abandoned in favor of casefinding, locating persons with undiagnosed syphilis.

Screening through mass blood-testing surveys was a successful tool in finding cases, but as disease incidence dropped, screening became less productive. Gradually the interview of the patient for his sex partners became an important casefinding tool.

One of the first studies designed to test the interview and contact tracing process was conducted in Arkansas in 1947.<sup>1</sup> In this 100-day experiment, 201 patients named 655 sex contacts. Previously undiagnosed syphilis was detected in 167 of the contacts.

Further studies were conducted by the Public Health Service at the PHS Medical Center in Hot Springs. The techniques that proved most effective were taught in the first National School for Interview Training at Gallinger Hospital in Washington, D. C. in 1949.

Over the years the interview and contact tracing procedure has been refined and has evolved as a tool for case prevention through the application of "epidemiologic" or preventive therapy to named contacts recently exposed to patients with early syphilis.

The syphilis control program has been successful in reducing the reported incidence of syphilis

in Arkansas from an epidemic level of 7,272 cases in 1950 to 465 cases in 1982. Much of this success required cooperative efforts between public health workers and the private medical community. Active surveillance, timely reporting, and rapid epidemiologic follow-up are still basic to effective syphilis control.

Despite recognition of gonococcal salpingitis and gonococcal ophthalmia Neonatorum as major complications of gonorrhea in women, serious efforts to control gonorrhea did not develop until more recently. Prior to the early 1970's federal funding for gonorrhea programs was virtually non-existent. The sheer number of gonorrhea cases was overwhelming in the face of the overriding concern for syphilis control and the limited funding available.

In 1972, federal grant money became available to launch gonorrhea control programs. The control efforts were primarily aimed at detecting asymptomatic infections in women through mass screening efforts. Additional support was provided for public health workers to perform interviewing and contact tracing activities. Reported cases of gonorrhea in Arkansas increased from 7,665 in 1971 to 13,076 in 1976. Since 1976 there has been a reduction to 10,322 cases reported in 1982.

Despite successes in reducing the reported incidence of syphilis and gonorrhea over the long term, sexually transmitted diseases (STD's) continue to represent the most commonly reported communicable diseases in Arkansas as well as the nation. In the first six months of calendar year 1983, 4,603 cases of gonorrhea and 219 cases of syphilis were reported in Arkansas. These numbers represent a 10.4 percent decrease in gonorrhea

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and a 7.2 percent decrease in syphilis when compared to the same period in 1982. In the first half of calendar year 1983, 9.5 percent of all females reported with gonorrhea in Arkansas were reported with symptoms suggestive of gonococcal salpingitis. Additionally, penicillinase-producing strains of gonorrhea are increasing nationwide and the thirteen cases reported in Arkansas in 1982 underscore the need for an increased level of awareness. In 1982, Arkansas ranked 15th among the fifty states in rate of gonorrhea per 100,000 population; 20th among the fifty states in rate of syphilis per 100,000 population.

In recent years the scope of venereal disease activities has expanded to include a more comprehensive list of sexually transmitted infections including hepatitis B, chlamydial infections, *Gardnerella vaginitis*, and even enteric infections among gay male populations. Recent publicity around genital herpes and acquired immunodeficiency syndrome (AIDS) has been a mixed blessing. The general awareness level of STD's has risen substantially, yet ever-increasing demands for solutions are made on the limited public health resources.

With an increase in the scope of STD control and no increase in funding levels, the interview and contact tracing process is frequently limited to priority patients—those with penicillinase-producing gonorrhea, gonococcal salpingitis, and early syphilis. Patients with other infections are encouraged to participate in the contact referral process. Many patients will assume responsibility for contact referral if there is effective, two-way communication between the patient and the health care provider. However, some patients are unwilling to refer contacts and many will fulfill their responsibility only with supervision from a health worker.

Effective patient counseling and education is important to stimulate patient behaviors that contribute to successful therapy, prevention, and disease intervention. The basic messages outlined below are designed to enhance desired patient behaviors:

1. Information about the patient's infection.
  - a. Results of tests.
  - b. The name of the disease and its importance.
  - c. The name of the medication, how to take it, and potential side effects.

- d. Symptoms and appropriate response to apparent treatment failure.
2. The importance of evaluating the patient's sex partner(s).
  - a. How the disease is transmitted and its incubation period.
  - b. Consequences to the health of the patient and sex partner(s) if not medically evaluated.
  - c. Possibility of asymptomatic infections.
  - d. Necessity of abstaining from sex until partner(s) have been evaluated.
3. The need for follow-up tests.
  - a. Necessity and purpose of follow-up tests.
  - b. When and where to take the tests.
  - c. Potential consequences of not obtaining the tests.
4. Prevention of future infections.
  - a. The fact that reinfection can easily occur.
  - b. Evaluating sex partners is necessary to prevent reinfection.
  - c. Temporary abstinence from sexual contact is a valid method of prevention.
  - d. Proper use of condoms provides some protection (for both men and women).
  - e. The recognition of major symptoms of STD infections.
  - f. The need for prompt medical attention when symptoms appear or possible exposure takes place.

The success of the venereal disease control program throughout its evolution continues to be dependent upon a cooperative effort on the part of the private medical community and public health. Timely reporting of venereal disease cases followed by rapid referral and evaluation of sex partners forms the basis for an effective program. Important support elements include patient education and counseling, prenatal serologic screening (preferably in the first and third trimesters), and beta-lactamase screening in apparent gonorrhea treatment failures.

1. Easley, E. J., *et al.*: "The 100-Day Experiment in Contact Investigations." *J. Ven. Dis. Ed.* Vol. 29, No. 1, January, 1948.

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*Background:*

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# *Surgical Overview:*

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## The Hypoplastic Left Heart Syndrome - A Treatable Condition

G. R. Westerman, M.D., J. B. Norton, M.D., and S. H. Van Devanter, M.D.\*

In 1952, Lev<sup>1</sup> described a constellation of cardiac defects including a small or absent left ventricle associated with aortic valve atresia, and stenosis or atresia of the mitral valve. He termed the complex "hypoplasia of the aortic tract." Noonan and Nadas<sup>2</sup> later reviewed several cases utilizing the term "hypoplastic left heart syndrome" (HLHS), focusing attention on the most devastating anatomic aspect of this complex malformation. Until Norwood<sup>3</sup> reported survival in an infant undergoing anatomic correction, (presently alive and well at age 2 years), long-term survival had not been reported.

The usual clinical scenario begins with the birth of what is apparently a healthy infant. The child (usually a boy, for the male to female ratio is 2:1) may appear well for several hours but as the ductus arteriosus constricts, the systemic circulation is diminished and a shock-like state evolves. Heretofore, such a baby died within a few hours or days without any consideration given to surgical intervention. It has been conventional wisdom to forego any treatment once the diagnosis of HLHS was confirmed by echocardiography or cardiac catheterization, and in recent years, most of these infants were not subjected to catheterization since the echocardiographic findings are so characteristic.

The availability of drugs that prevent or retard ductal closure has allowed such babies a period of palliation while the systemic circulation is preserved. Prostaglandin E<sub>1</sub> (PGE<sub>1</sub>) is now used routinely when an infant is suspected of having a duct-dependent lesion until a firm anatomic diagnosis is made.<sup>4</sup> This has allowed time to achieve hemodynamic stability, prevents progressive acidosis, and has made consideration of surgical intervention possible.

Though surgical efforts at palliation were attempted before availability of PGE<sub>1</sub>, few successful efforts were reported, and not until hemodynamic stability could be achieved with PG E<sub>1</sub> were aggressive surgical efforts considered routinely possible. These preliminary, but encouraging, efforts have been reported<sup>3</sup> and we feel it now important to review this new attitude toward what was once an inevitably fatal lesion. The magnitude of the problem is illustrated by statistics from the New England Infant Cardiac Program<sup>5</sup> which find HLHS to be the fourth most common congenital cardiac defect (7.5%). Of all patients with congenital cardiac disease dying within the first week of life, 25% have HLHS. Adding to the tragedy of certain death is the fact that the vast majority of these infants are otherwise normal, healthy babies, seldom having an associated congenital defect.

As the anatomy and physiology of the lesion are now better understood, and since ductal patency can now be maintained for hours or even days, surgical techniques can be designed to allow for prolonged survival. The changing physiology of the neonate has been one of the major stumbling blocks preventing successful treatment. Survival in the first few days is dependent upon maintenance of blood flow through the ductus arteriosus. If the ductus closes, death results from the lack of systemic perfusion; if the ductus remains patent, severe congestive heart failure may supervene as the pulmonary vascular resistance falls.

It is the fact that most patients must be treated within hours or days of birth, at a time when large changes in pulmonary and systemic vascular resistance are taking place, that makes successful treatment problematic. The diagnosis must be made very quickly as the mean survival is only four days, and only a few hours may elapse between the first symptom and death. The quick response to early symptoms is not always effective

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even in a center with pediatric cardiologists, echocardiography, and cardiac catheterization readily available. Yet, survival for these infants depends upon the suspicion of the diagnosis and rapid institution of therapy while contacting resource people and arranging transfer to an appropriate center. In a newborn infant who develops sudden cyanosis with respiratory distress, the diagnosis of HLHS should be immediately entertained, as severe hypoxia, acidosis, myocardial failure and death are imminent if the diagnosis is correct. A murmur may or may not be present, and an electrocardiogram demonstrating right axis deviation, right ventricular hypertrophy, and right atrial enlargement with ST-T wave changes may be present, but not invariably so. The chest radiograph may or may not show an enlarged heart, but increased pulmonary vascular markings is a very common early finding. Many such infants are suspected to be septic and are treated accordingly with a rapidly downhill course following in spite of antibiotic therapy. The only immediately effective treatment is the institution of a constant infusion of  $PGE_1$  as described by Dungan<sup>4</sup> et al. This improves systemic perfusion by maintaining ductal patency until surgical therapy can be undertaken and should be insti-

tuted in conjunction with consultation with a pediatric cardiologist. Transfer to a center equipped for definitive diagnosis and surgical therapy should be arranged concomitantly. The

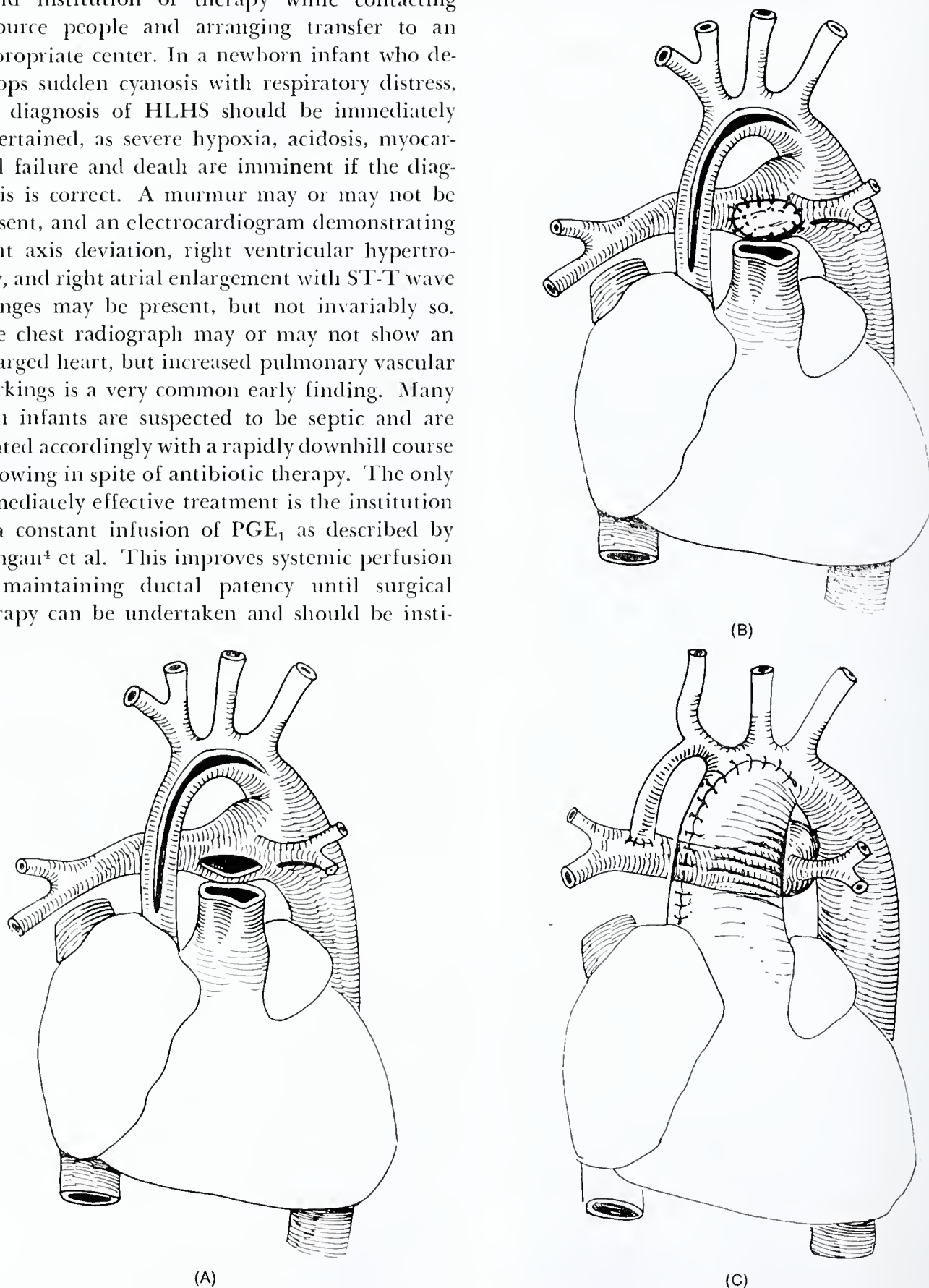


Figure 1.

a) aortic incision and division of distal main pulmonary artery.  
 b) patch closure of distal main pulmonary artery.

c) anastomosis of proximal main pulmonary artery to aorta; right Blalock-Taussig shunt; ligation of ductus arteriosus.

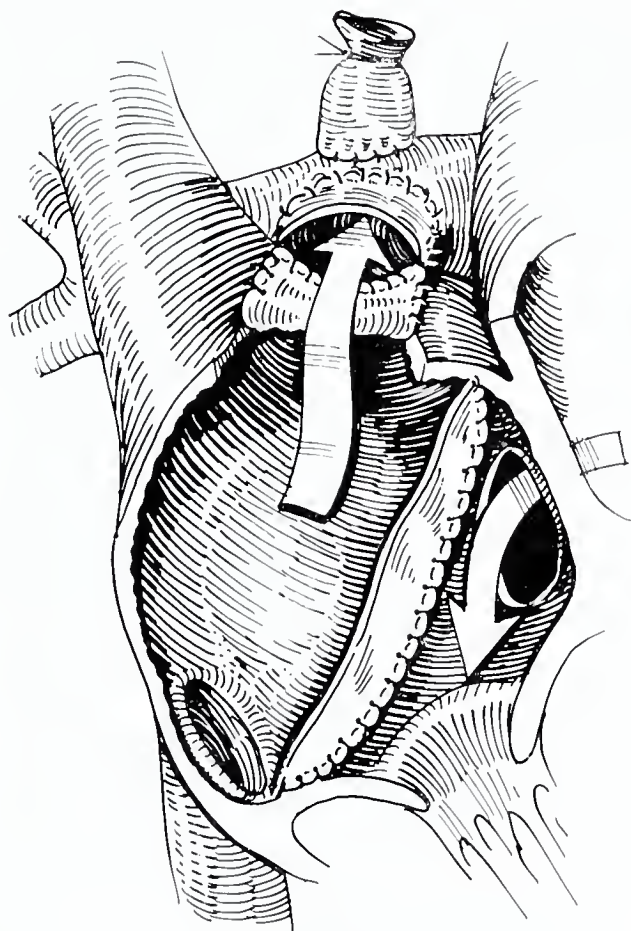
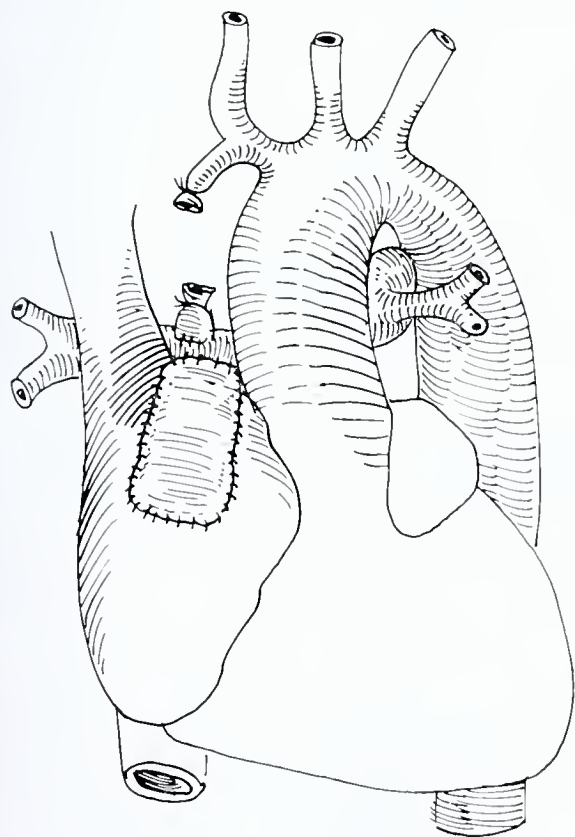


infusion of PGE<sub>1</sub>, even in a patient in whom the diagnosis is not certain, carries a risk far less than an untreated patient with HLHS. On arrival at the referral center, echocardiography, and cardiac catheterization if indicated, are performed immediately.

Doty<sup>6</sup> has outlined criteria which are probably necessary for successful palliation of HLH. 1) The right ventricle should be capable of providing pulsatile flow from the proximal pulmonary artery to both systemic and pulmonary circuits. 2) The aortic arch should be suitably reconstructed so as to improve cerebral and coronary blood flow associated with arch hypoplasia. 3) Predictable pulmonary blood flow should be provided. 4) The pulmonary arteries should remain amenable to later reconstruction using the modified Fontan procedure. Fontan<sup>7</sup> described a "physiologic" repair in patients with tricuspid atresia, and therefore, only one functional ventricle. This provides pulmonary blood flow directly from systemic venous return without an intervening ventricle. Subsequent modifications of his original operation have allowed repair of several other cardiac defects with only one functional ventricle. Such repair is not possible in the neonate, as success depends on low pulmonary

vascular resistance. Thus, a first stage palliative operation is mandatory for total correction cannot await the physiologic fall in pulmonary vascular resistance which may take several months.

The stage I repair (Figure 1) for HLHS as described by Norwood,<sup>8</sup> involves division of the distal main pulmonary artery, and plastic reconstruction of the diminutive ascending aorta and arch utilizing the proximal cut end of the pulmonary artery. This directs all right (now systemic) ventricular output into the newly reconstructed aorta. The ductus arteriosus is ligated and pulmonary blood flow is established with a standard or modified Blalock-Taussig shunt performed intrapericardially, anastomosing the right subclavian artery to the right pulmonary artery either directly or with a tube graft. In Norwood's series, hospital mortality for the first stage was 50%, a remarkable achievement in the early evolution of surgical repair for this complex lesion. The timing of stage II physiologic repair is dependent upon the patients' clinical status. If development is normal, repair could be delayed for a number of years; however, it is likely that the majority of patients would develop increasing cyanosis and



(A)

(B)

Figure 2.

a) Blalock-Taussig shunt ligated and divided; external appearance of right atrial to right pulmonary artery anastomosis.

b) intra-cardiac view showing atrial partition.

exercise intolerance within a year or two as a result of the limited pulmonary blood flow through the Blalock anastomosis. Norwood's first patient to have long-term survival after stage II required correction at age 16 months. The second stage operation (Figure 2) is accomplished by 1) take down of the shunt, 2) partitioning the atria to direct all pulmonary venous return into the systemic (right) ventricle via the tricuspid valve, and 3) anastomosis of the right atrium directly to the pulmonary arteries. This effectively separates the pulmonary and systemic venous return and utilizes the only functional ventricle as the systemic ventricle. Pulmonary blood flow is passive without a pulmonary ventricle.

Norwood has shown that the dismal prognosis of HLHS can be altered surgically, but this success is dependent upon extremely rapid diagnosis and the early institution of PGE<sub>1</sub> infusion concomitant with the transfer of the patient to a referral center where the diagnosis is confirmed and surgery can be considered. It is too early to predict what proportion of these babies can be significantly helped by this new aggressive approach, yet past experience with other complex cardiac anomalies provides ample precedence for such an approach in selected centers. We are hopeful that the early successes encountered to

date will be extended and perhaps predict a time when we approach the infant with HLHS with the same optimism that is now fully justified in most other congenital cardiac anomalies.

#### ACKNOWLEDGMENT

The authors wish to express appreciation to Mr. Ron Tribell for his excellent illustrations.

#### BIBLIOGRAPHY

1. Lev, M.: Pathologic anatomy and interrelationships of hypoplasia of the aortic tract complexes. *Lab. Invest.* 1:61-70, 1952.
2. Noonan, J. A., and Nadas, A. S.: The hypoplastic left heart syndrome: an analysis of 101 cases. *Pediatr. Clin. North Am.* 5:1029-56, 1958.
3. Norwood, W. I., Lang, P., and Hansen, D. D.: Physiologic repair of aortic atresia—hypoplastic left heart syndrome. *N. Engl. J. Med.* 308:1, 23-26, 1983.
4. Dungan, W. T., Norton, J. B., Readinger, R. I., and Sotomora, R. F.: Prostaglandin E<sub>1</sub> in neonates with critical congenital heart disease. *J. of AR Med. Soc.* 79:5, 167-70, 1982.
5. Fyler, D. C.: Report of the New England Regional Infant Cardiac Program. *Pediatr.* 65:376-471, 1980.
6. Doty, D. B.: Aortic atresia. *J. Thorac. Cardiovasc. Surg.* 79:3; 462-63, 1980.
7. Fontan, F., and Boudet, E.: Surgical repair of tricuspid atresia. *Thorax* 26:240-48, 1971.
8. Norwood, W. I., Lang, P., Castaneda, A. R., and Campbell, D. N.: Experience with operations for hypoplastic left heart syndrome. *J. Thorac. Cardiovasc. Surg.* 82:1; 511-19, 1981.





# Update in Dermatology:

## The Dysplastic Nevus Syndrome

Steven E. Krause, M.D.\*

The discovery of malignant melanoma among family members and the occurrence of numerous nevi in some melanoma patients led to the recognition of the dysplastic nevus syndrome.<sup>1,2,3</sup> Other names applied to this entity are large atypical nevus syndrome (LANS), B-K mole syndrome, and the familial atypical multiple mole-melanoma syndrome (FAMMS). Multiple atypical-appearing melanocytic nevi with an increased tendency for the development of malignant melanoma represent the key feature of this syndrome.

### Case Report:

A 47-year-old Caucasian male with this syndrome first came to our attention in 1980 when he was found to have a Stage I, Level I malignant melanoma of his mid-back. Wide surgical excision was performed. No recurrences have been detected in the past three years. At the time of initial examination he was noted to have multiple nevi; many of these were "common" nevi, but others were atypical in appearance. The atypical nevi were larger (greater than 5mm), both flat and raised, and displayed variable pigmentation. Excision and microscopic examination of these lesions revealed histologic changes consistent with dysplastic nevi. Family history was negative for malignant melanoma and no other family members were noted to have multiple atypical nevi.

Both familial and sporadic variants of this syndrome have been documented.<sup>4</sup> "Sporadic" cases should be tentatively classified pending future development of atypical nevi in family members.<sup>5</sup> We feel this patient has the dysplastic nevus syndrome-sporadic type.

Usually, dysplastic nevi appear during adolescence and continue to increase in number into adulthood. The number of nevi is variable—from as few as five to over one hundred. Melanomas in these patients tend to occur at an earlier age than those arising in patients without this syndrome.

Dysplastic nevi are precursors of malignant melanoma.<sup>3</sup> Patients with the dysplastic nevus syndrome who have developed one melanoma have a 2-4% chance per year of developing a second melanoma in one of the dysplastic nevi.<sup>6</sup> While not all patients with the dysplastic nevus syndrome will develop malignant melanoma, the risk appears to be substantially increased when compared to normals.

Dysplastic nevi have a distinctive clinical appearance. They tend to be larger (many greater than 1cm) than ordinary nevi and have other atypical changes such as the presence of macular components, pigment spreading at the edge of the lesion, and variable pigmentation with hues of black, brown, blue, pink, and white.

Histologically, dysplastic nevi appear to be intermediate between common nevi and melanoma.<sup>3,4,7</sup> Focally atypical melanocytes occur singly or in nests within the epidermis.<sup>4</sup> Fibroplasia of the papillary dermis and an upper dermal lymphocytic infiltrate are present.

Management of patients with dysplastic nevus syndrome should include not only close thorough examination by the physician, but also patient education and self-examination on a monthly basis. Photographic documentation at six-month intervals can be very helpful in detecting slowly changing lesions. Suspicious lesions should be excised and examined microscopically. Family members known to have multiple "moles" should also be examined for the presence of dysplastic nevi.

It is important to recognize this syndrome so that malignant melanoma can be prevented or at least treated at an early stage when prognosis is still favorable.

### REFERENCES

1. Lynch, H. T., and Krush, A. J.: Hereditary and malignant melanoma: Implications for early cancer detection. *Can. Med. Assoc. J.* 99:17-21, 1968.

\*Chief Resident, Department of Dermatology, 4301 West Markham Street, Little Rock, Arkansas 72201.

2. Frichot, B. C., and Lynch, H. T.: A new cutaneous phenotype in familial malignant melanoma. *Lancet* 1:861-865, 1977.
3. Clark, W. H., Reimer, R. R., Greene, M. H., Ainsworth, A. M., and Mastrangelo, M. J.: Origin of familial malignant melanomas from heritable melanocytic lesions; the B-K mole syndrome. *Arch. Derm.* 114:732-738, 1978.
4. Elder, D. E., Goldman, L. I., Goldman, S. C., Greene, M. H., and Clark, W. H.: Dysplastic nevus syndrome: a phenotypic association of sporadic cutaneous melanoma. *Cancer* 46:1787-1794, 1980.
5. Fusaro, R. M., Lynch, H. T., and Kimberling, W. J.: Familial atypical multiple mole-melanoma syndrome—letter. *Arch. Derm.* 119:2-3, 1983.
6. Kraemer, K.: Dysplastic nevi as precursors to hereditary melanoma. First World Congress on Cancers of the Skin, 1983. *J. Derm. Surg. Oncol.* 9:619-622, 1983.
7. Rhodes, A. R., Melski, J. W., Sober, A. J., Harrist, T. J., Mihm, M. C., Jr., and Fitzpatrick, T. B.: Increased intra-epidermal melanocyte frequency and size in dysplastic melanocytic nevi and cutaneous melanoma. *J. Invest. Derm.* 80:452-459, 1983.



## EDITORIAL

# Immunology — Aging and Interferon

Alfred Kahn, Jr., M.D.

There is a great deal of research on aging at the present time. The research revolves around many different facets, including: a study of what is the aging process itself, why does immunity fail in aging, what accelerates the aging process, what retards the aging process, what diseases stimulate the aging changes, and so on. It is well known in the research laboratories that normal tissue can be sub-cultured from one to the next, only about fifty times. Yet cancerous tissue can be subcultured almost indefinitely. The inability of normal tissue to be subcultured indefinitely, must represent some facet of the aging process.

There are some interesting immunologic studies of aging, two of which have been published in the (*Journal of Clinical Investigation*), Volume 67, April 1981. Gillis, Kozak, Durante, and Weksler, page 937, studied the decreased production of and the responses to the T-cell growth factor by lymphocytes from the aging humans. This study evolved from the fact that it was discovered that lymphocytes in humans over 65 years of age did not respond the same as younger people when

stimulated in tissue cultures. They state that T-lymphocytes do not proliferate when appropriately stimulated even though the absolute number of T-cells and B-cells are not significantly different in the age group and in a group of younger individuals. The failure to obtain multiplication of T-cells seem appropriately stimulated, they state could come from one, a reduced number of mitogen responsive T-cells in the blood of elderly people or secondly, a failure of normally responsive cells that simply respond in tissue culture. T-cells are said to multiply in response to a T-cell growth factor which is released when properly stimulated by mitogens; Gillis et al state that the mitogen causes one group of T-cells to release the T-cell growth factor which in turn causes another set of T-cells to proliferate. The thrust of this report demonstrated that lymphocytes of elderly people do not produce as much T-cell growth factor as lymphocytes from younger people. Furthermore, lymphocytes from elderly individuals were not as responsive to growth factors as lymphocytes from younger people. The authors feel



that the altered responses of the T-lymphocytes may play a very significant role in the impairment immune responses of the aging human being.

In the same volume of the (*Journal Of Clinical Investigation*), is an article entitled, Decreased in Vitro Humoral Immune Response in Aging Humans, by, Pahwa, Pahwa and Good, Page 1094, whereas the former article had to do with the response of cells. These authors were also impressed by the decreased immunology competence in aging animals as compared to young animals with regard to both cell mediated and humoral immunity—thus explain the increased occurrence in the aging population of infections, malignancy and autoimmunity. They further relate that T-lymphocyte function deficiency in aging has been demonstrated in several laboratories—but the failure of B-cells has not been well understood with regard to aging. Pahwa et al studied the blood taken from humans over 65 years of age and compared it with a young group (20-30) years of age; they used a microculture assay to study specific antibody responses and they studied the polyclonal induction of immunoglobulin secreting cells using poke-weed mitogen as a stimulant. They reported that there were definite deficits in the response of the aged population group to an antigen and poke-weed mitogen. They drew the conclusion from their studies that although there are age related deficiencies of B-lymphocyte function, these deficiencies were usually not intrinsic defects of the B-cells, but were frequent due to the disfunction of the immuno regulatory T-cells.

Another facet of immunology which has addressed a good deal of potentiation in the lay-press, radio and TV—and in the medical literature—is interferon. Interferon has been hyped as a therapy for many infectious disease and for malignant disease. It has been reported that some pharmaceutical companies are hopeful of releasing interferon for human usage in the not too distant future; as with many new therapeutic substances they could find is presented—and later some ill effects of the new pharmaceutical product are discovered. So it is with interferon it appears, that it would be a most helpful form of therapy, but it is not entirely free of adverse effects. Scott, Secher, Flowers, Cantell and Tyrrell have published a report entitled Toxicity of Interferon, (*British Medical Journal*), Volume 252, Page 1345,

April 25, 1981. They report that the large doses of interferon which are necessary to induce a clinical effect may cause influenza-like symptoms and pancytopenia. It was suspected that impurities might have caused the adverse clinical reactions to use of interferon, but this does not seem to be the case according to Scott et al. But the authors state “purification of interferon using a monoclonal antibody does not reduce the facets of its activity considered in this study.” They are therefore inherent in the leukocyte interferon type selected by the antibody. The authors used two different types of interferon, one a partially purified product and the other a relatively pure product; both preparations induce the influenza like syndrome and the changes in the blood count. Among the symptoms reported, were headaches, malaise, fever, chills, fatigue, myalgia, low back pain, joint pains, anorexia, etc. One interesting feature of this investigation was that they gave two volunteers an injection of interferon while simultaneously administered Indomethacin 50 mg. every six hours. The authors reported that there was no rise in pulse rate or body temperature in these two individuals; the symptoms which the individuals perceived subjectively were greatly reduced. Indomethacin is a known anti-prostaglandin substance.

The authors do not venture in opinion as to whether or not the use of Indomethacin with interferon reduces its effectiveness as a therapeutic agent for infection in cancer.

The field of immunology is rapidly moving and there is a wealth of literature concerning various aspects of immunology. The changes with aging and the use of interferon are receiving a great deal of attention from the research laboratories but finer answers in both areas are not yet forthcoming.



#### ANSWER—Electrocardiogram of the Month

DISCUSSION: Her electrocardiogram shows a sinus rhythm with large and wide P waves. The ST segments are depressed and the T waves are flat in II, III, AVF, and V<sub>1</sub>-V<sub>6</sub>. The QT interval is prolonged and a U wave is seen in V<sub>2</sub>-V<sub>4</sub>. These changes make one suspect hypokalemia and/or hypomagnesemia. Her clinical setting is compatible with either or both disturbances. The feature editor wishes to thank Dr. Andy Henry of the UAMS Division of Cardiology for his assistance with this month's feature.

## "From Other Years"\*

*Journal of the Arkansas Medical Society*

6(No. 5):222 November, 1895

### THE GREENE COUNTY MEDICAL SOCIETY

The Journal has received from Doctor J. H. Kinsworthy, of Paragould, the information that a county medical society has just been organized in the county of Greene. We believe there has never before been a medical society in that county. This is the first gun of the fall campaign recently referred to in these pages. The Journal hopes the reverberation from the explosion will awaken the medical men in other counties.

### THE LITTLE ROCK MEDICAL SOCIETY

At the November meeting of the Little Rock Medical Society, Doctor A. H. Scott was elected president, Doctor I. J. Newton, vice president; Doctor F. Vinsonhaler, secretary, and Doctor J. H. Southall, treasurer.

After the meeting the president, though his election took him unawares, invited the members who were present to an elegant collation at the Gem Café. The social feature was an occasion of much enjoyment to those who attended the meeting, but must have been a disappointment to some of the absentees that night who *may* have been in the habit of attending only the elections and social reunions of the society.

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*Journal of the Arkansas Medical Society*

6(No. 5):228 November, 1895

### TYPHOID GERMS IN THE AIR

The *Medical Times* for October contains an account of experiments conducted by Doctor Licard to determine the possibility of transmission of typhoid germs by air.

His plan of experimenting was to have patients suffering from this disease breathe through tubes into water that had previously been sterilized. Specimens of water thus treated were frequently found to contain bacilli upon examination. The results were not uniform, but sufficiently so to warrant the belief that typhoid may be so conveyed by the breath of the patient or by contaminated air arising from infected sources.

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*Journal of the Arkansas Medical Society*

6(No. 7):307 January, 1896

### EDITORIAL NOTES

Smallpox is now prevalent in North Little Rock, 3 cases; Faulkner County, 11 cases; St. Francis County, 9 cases; Lee and Crittenden counties, several cases each. All in Arkansas.

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*Journal of the Arkansas Medical Society*

6(No. 7):319 January, 1896

### THE PHILLIPS COUNTY MEDICAL ASSOCIATION, TWENTY-FIFTH ANNIVERSARY

Helena, Ark., January 7, 1896

The Phillips County Medical Association held its regular monthly meeting at the city hall Tuesday morning at 10 o'clock. President M. L. Pearson presided. Drs. F. N. Burke, D. A. Linthicum, A. A. Hornor, J. H. Vineyard, M. L. Pearson, W. C. Russwurm, C. R. Shinault, G. E. Penn and M. Fink were present, and Drs. H. M. Thompson, T. C. Linthicum and J. W. Bean absent. This being the meeting for the election of officers the following were elected for the ensuing term, viz: President, Dr. D. A. Linthicum; Vice President, Dr. H. M. Thompson, of Marvell; Secretary and Treasurer, Dr. M. Fink. The reports of the treasurer and secretary showed that the society is in a highly prosperous condition.

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*Journal of the Arkansas Medical Society*

6(No. 7):321-2 January, 1896

### SEBASTIAN COUNTY MEDICAL SOCIETY—OFFICERS FOR 1896

Fort Smith, Ark., December 20, 1895

Our society has enjoyed a very prosperous year; we have had twelve regular and two special meetings with an average attendance at the regular meetings of eleven. We have had eight regular essays and a number of reports from the various sections. We have received four new and valuable members, viz: Drs. W. R. Brooksher, Thomas Douglass, St. Clair Cooper and—Reamy, all young and active in society work. We now have twenty-six active members, and our society, as may be judged from the above figures, is thoroughly alive and as full of interest and enthusiasm as any medical society perhaps in the country, and all those who honor us with their presence at the approaching meeting of the Arkansas Medical Society will find everything in readiness, and may be assured of receiving a hearty, whole-souled welcome by both the Sebastian County Medical Society and the citizens of Fort Smith.

At our last meeting held December 12, the following officers were elected for 1896: E. G. Epler, M.D., president; H. Moulton, M.D., first vice president; A. E. Hardin, M.D., second vice president; J. D. Southard, M.D., secretary (re-elected); J. W. Breedlove, M.D., treasurer (reelected).



# MEDICINE IN THE NEWS



## THE MONTH IN WASHINGTON

**NOTE TO EDITORS:** The Medicare trust fund is predicted to go broke by 1988 or 1990. Earlier this year the Congress passed a Social Security Act Amendment that set in place a prospective pricing system for hospitals based on diagnosis related groups (DRGs) and called on the Department of Health and Human Services to study the advisability and feasibility of extending the concept to cover physicians payments under Medicare. As October ended in Washington, the Congress and the Administration were grappling with a number of proposals to cut Medicare costs. This Month in Washington provides a sketch of current activities, with overtones of things to come.

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### Budget Reconciliation Reflects Piecemeal Cost Cutting

A proposal to freeze some Medicare payments to physicians and require assignment of claims for these services will be submitted by the House Ways and Means Committee for debate on the floor of the House despite the proposal's failure to win the committee's endorsement. House debate on the issue was expected in early November.

The proposal initially would have rolled back and frozen for six months Medicare payments to physicians for services to hospital inpatients. Physicians would have been required to accept assignment of claims for inpatient services. Savings were estimated at \$920 over the next three years.

Although the plan was adopted with little debate and no hearings in the Ways and Means Health Subcommittee, it was rejected in lengthy secret sessions by the parent committee after the assignment and freeze issues were divided for separate votes. The mandatory assignment provision was rejected by a small margin, after which the freeze was defeated by a larger majority, primarily because it was feared the freeze without mandatory assignment would penalize beneficiaries.

Ways and Means Chairman Rep. Dan Rostenkowski (D-IL) then mounted a last ditch effort to convince Democrats who had voted against the proposals to support an even-tougher alternative.

The alternative would have added a requirement that hospitals deny admitting privileges to physicians who refused to commit to taking Medicare inpatient cases on assignment. Medicare's criminal penalties would have been assessed against any physician who made, but didn't honor such a commitment.

Although he was unable to garner sufficient support for adoption, Rostenkowski won agreement to allow him to take the proposal to the House floor as a separate amendment. The House debate, which had been scheduled for October 28, was postponed due to another controversial portion of the Ways and Means package — industrial development bonds.

Other Ways and Means provisions involve Medicare payment for cardiac pacemakers and clinical lab services. These provisions are also included in a package adopted by the House Commerce Committee. Both committees' proposals are intended to bring health programs into compliance with spending targets in the congressional budget resolution. The Senate Finance Committee has not completed deliberations on its reconciliation package.

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### PROs Overemphasize Cost, Government Told

When Medicare officials designed their new diagnosis-related, fixed price hospital payment plan, they relied heavily on new review teams called professional review organizations (PROs) to make sure that hospitals didn't try to get around the system by admitting more patients and skimping on the quality of care they provide.

Now hospitals, physicians and some of the professional standards review organizations (PSROs) that preceded the PROs as review bodies are telling the government that the bidding principles it outlined in August for the would-be PROs overemphasize admission controls and do little to protect quality.

Basically, the bidding principles, called "scope of work," require the PRO to detail five objectives aimed at reducing admissions and one intended to protect quality. The draft also includes a cost-benefit ratio and an "admissions factor"

that rates a PRO by its ability to reduce admissions and cut costs. A point system by which bids will be evaluated accompanies the "scope of work" draft.

In general, the responding groups — including the American Medical Association, the American Hospital Association, the American Society of Internal Medicine, and the American Medical Peer Review Association — were critical of the "admissions factor" formula and of the emphasis on cost over quality.

The AMA and AHA also urged that the point system be redesigned to give physician-sponsored organizations a greater advantage in the bidding process. The AHA recommended that PROs be permitted to delegate review to hospitals and said that PROs also should look at physician services related to reviewed hospital services, denying payment for physician services to any patient for which payment to the hospital is denied.

Business groups and AMPRA said PROs should be required to include a plan for review of the care of private patients in their bid. All of the groups, and the Blue Cross and Blue Shield Association as well, have called for changes in a provision that would prohibit officials, owners or board members of a health facility from participating in the governance, management or ownership of a PRO.

In criticizing the quality objectives outlined in the principles, the AMA warned that fixed price payments provide a strong incentive for underprovision of services. In this new environment, the association commented, "PROs must play a vitally important role in ensuring that quality medical care is provided to the nation's elderly by supporting physicians in their decisions to provide medically necessary care."

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#### **Ancillary Services Unnecessary**

A General Accounting Office review of 16 hospitals has concluded that 6% of the ancillary hospital services charged to Medicare were unnecessary.

As a result, GAO already is stumping for changes in the rate structure in Medicare's new diagnosis related groups (DRGs) payment plan.

The study, performed for GAO by eight Professional Standards Review Organizations (PSROs), found that about 10% of laboratory tests, special services and radiology were not needed. About

32% of all physical therapy and 6% of all ancillaries were considered unnecessary. Medicare paid the charges, GAO concluded, because the program does not have an adequate review system for medical necessity.

The GAO said it recognizes that the new fixed-priced DRG payments are expected to encourage hospitals not to do unnecessary ancillary services, but it recommended that Medicare beef up its review of the necessity of services anyway. About 60% of all hospital charges are for ancillary services, and in 1984 Medicaid and Medicare will spend over \$30 billion for ancillaries, GAO noted. Medicaid will not be under a DRG system and data gleaned from Medicare cases could be used to rework the DRGs, the report suggested.

The Department of Health and Human Services is required to recalibrate DRGs for fiscal 1986 and GAO says that the recalibration should remove from the DRG rates any portion attributable to unnecessary ancillary services.

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#### **Medicare Deductibles To Rise January 1**

The nation's 30 million Medicare beneficiaries will have to pay about 17% more out of pocket for hospital stays in 1984 as the Medicare hospital deductible increases from \$304 this year to \$356 on January 1, the Department of Health and Human Services has announced. The premium beneficiaries pay for their supplementary medical insurance (Part B) will rise from \$12.20 to \$14.60 a month on January 1.

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#### **Beyond DRGs?**

Just as hospitals across the country were gearing up for the advent of Medicare's new diagnosis related groups (DRGs) payment scheme on October 1, organized labor and some of its congressional supporters staged a hearing to promote a labor-backed bill that goes far beyond the new Medicare plan.

Called the "Health Care Cost Control Act of 1983," the bill would establish federal caps on payments to both physicians and hospitals, require physicians to take all Medicare claims on assignment, and increase federal Medicaid payments to states that set up their own systems to control hospital and physician fees. Both the federal and state controls would apply to all patients — not just Medicare and Medicaid beneficiaries.



Introduced earlier this year by Sen. Edward Kennedy (D-MA) and Reps. James Shannon (D-MA) and Barbara Mikulski (D-MD), the bill was the subject of a hearing by the House Ways and Means Health Subcommittee. It was endorsed by labor groups and supported in part by the Health Insurance Association of America.

It was opposed by the American Hospital Association, the Blue Cross and Blue Shield Association and the American Medical Association, whose representatives called it an extension of the hospital cost cap proposed by the Carter Administration and rejected by Congress.

The cost cap plan is not likely to be seriously considered this year in a Congress waiting to see how effective hospital DRGs will prove. But since DRGs are expected to delay Medicare bankruptcy only to 1990 at best, Congress soon will have to seriously address Medicare's financial problems and Kennedy appears to be positioning for that debate.

Kennedy reportedly will offer another alternative which he considers a "refinement" of that plan. He and Rep. Richard Gephardt (D-MO) plan to introduce a proposal to extend DRGs to all payers and apply it to physician fees as well as to hospitals.

AMA Board member Alan R. Nelson, M.D., testifying in October, said the Kennedy-Shannon approach is based on "strict regulatory controls, arbitrary and rigid caps, massive bureaucratic administration, and harsh penalties. Administration of the program would be highly complex and intrusive into the management of hospitals and the delivery of Medicare in this country," and "would provide no safeguards to assure quality care," Dr. Nelson said.

Dr. Nelson, a Salt Lake City physician specializing in internal medicine, called the proposal to limit physician fees "counter-productive" and "unfair" since it would restrain physician charges while placing "no such restraints on the rest of the economy." He also warned that mandated assignment of Medicare claims, in conjunction with proposals to hold down Medicare reimbursement to physicians, could adversely "affect access of Medicare patients to the physician of their choice."

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#### **Congress To Deal With Malpractice**

Rep. Richard Gephardt (D-MO) and other members of the House Ways and Means Committee

may introduce "in the near future" a proposal that "will radically change" the way medical malpractice claims are treated, Gephardt reported recently.

Gephardt, who described the proposal at a recent meeting of the National Health Council in Washington, apparently was referring to a plan being drawn up by Louisiana Republican Rep. Henson Moore who, like Gephardt, is a member of the House Ways and Means Committee.

Characterized by Gephardt as the application of the no-fault insurance concept to medical malpractice, the Moore proposal reportedly would give the physician or health care provider involved in a malpractice case the right to offer prior to court action, a settlement based primarily on the plaintiff's economic loss as a result of the alleged malpractice. Acceptance of the offer would eliminate the plaintiff's right to further legal action except in certain specific instances. The proposal might be applied only to cases filed by Medicare and Medicaid patients.

"A number of us in the House have been studying" the malpractice issue and its potential impact on health costs, Gephardt said. There "are still a lot of problems" with our proposal, he conceded, and "I don't know if we can even begin to pass such legislation. But I think it is an integral part of any solution."

"I'm convinced that we've got to give relief to the medical practitioner and come up with a new system for compensating victims of malpractice that will give incentives to physicians to not practice as elaborate and as defensive a medicine as they now logically feel they have to."

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#### **Medicare Council Nears Final Vote**

A Medicare advisory committee has backed away from its earlier tentative recommendation that Medicare reduce payments to physicians who do not accept all Medicare claims on assignment as it wound down toward a final vote on its work November 3 and 4.

The advisory committee, chaired by former Indiana Governor Otis Bowen and known as the Social Security Advisory Council, is charged with suggesting solutions to Medicare's financial problems.

Earlier, the council had agreed to a proposal in which physicians could have chosen on an annual basis to become "participating physicians." "Participating physicians" would agree to accept

Medicare's reasonable charge as payment in full and Medicare would continue to pay, as it does today, 80% of the reasonable charge. Billing and payment procedures for these physicians would be streamlined and their names would be published in an annual directory. Medicare payments to "non-participating physicians" would have been reduced to 75% of the program's reasonable charge limit.

Meeting on October 16 and 17, however, the Council reversed its earlier decision to call for lower payments to non-participating physicians because it viewed the proposal as a shift of costs to beneficiaries, which some members opposed. The recommendation to set up a "participating physicians" concept and the other incentives were retained.

The Council also tentatively decided at its October meeting to recommend substantial increases in the Medicare Part B deductible. Under this proposal, the deductible would increase each year by the same amount as the consumer price index rises and the increase would be retroactive to 1974. The Part B deductible would increase from its current \$75 annual level to an estimated \$120 beginning in 1985 under the proposal.

At a late September meeting, the Council also reversed another earlier recommendation which opposed taxing a portion of employer-paid health insurance premiums. At the September meeting, the Council decided to support a tax on premiums exceeding \$75 a month for individuals and \$175 a month for families. The Council also has called for a restructuring of Medicare paid for by increased premiums and a study on the financing of medical education "in order to provide for an orderly withdrawal of Medicare funds from education and training support activities.

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#### **Role For Physicians In Hospice Urged**

A new hospice benefit Medicare to be initiated on November 1 will be "beneficial" to many patients but regulations to implement it should be modified "to give greater recognition to the role of the patient's attending physician," the American Medical Association has told Medicare officials.

In commenting on the regulations, the AMA suggested several specific areas where the role of the attending physician should be strengthened. The comments note that hospices will be paid a

flat per diem rate and call for the continued involvement of the attending physician as a "safeguard because the hospice has a significant incentive not to provide care that would result in incurring expenses in excess of the reimbursement amount."

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#### **Elderly Groups Hit Medicaid Proposal**

Groups representing children and the elderly charged in October that new Medicaid rules proposed by the Reagan Administration could force many low-income individuals to spend more for their medical care and leave them less to spend on food and shelter.

The rules, proposed in the September 2 *Federal Register*, would permit states to revise the way they determine eligibility for the so-called medically indigent. About 3.7 million of the 21.9 million Medicaid recipients fit in this category which gives states the option of providing Medicaid to low-income individuals with high medical bills.

The new rules would allow states to restrict the medical expenses that can be counted in determining eligibility. For instance, the state could now refuse to count as a medical expense bills for services provided more than three months earlier or for any services not covered by the state Medicaid plan except for health insurance premiums and copayments. In calculating the individual's potential cost of nursing home services, the state could assume costs equal to what Medicaid pays the nursing homes rather than what private patients pay.

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#### **Compromise On Health Planning**

Progress toward a compromise bill to reauthorize the health planning program continued slowly but surely in late September and October as major congressional players appeared to be moving toward an agreement and the White House clarified its position on planning.

Representatives of several key legislators, including Sens. Edward Kennedy (D-MA), Orrin Hatch (R-UT) and Dan Quayle (R-IN) and Reps. Henry Waxman (D-CA) and Edward Madigan (R-IL), have met and reportedly are discussing a three-year reauthorization that would amend the present planning legislation rather than repealing it and replacing it with a block grant. Funding apparently would be near the current level of \$64 million.

Meanwhile, White House Office of Manage-



ment and Budget Director David Stockman has written to Madigan to clarify an earlier OMB letter on health planning.

In the second letter, Stockman pledged that the Reagan Administration will "not oppose a substitute" with CON levels of \$1 million for institutional health services; \$5 million for capital expenditures and \$2 million for major medical equipment. He urged Madigan to "use your leadership to gain further consideration of your substitute bill with these higher CON thresholds."

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### Open Season For Feds

Federal employees' annual opportunity to change health plans begins soon and federal officials expect the trend to continue among employees to switch to lower-cost plans, often with higher cost-sharing amounts.

In 1983, about one million employees shifted to lower cost plans rather than face premium contribution increases averaging about 24%. As a result, the Office of Personnel Management reported that overall increases in what federal workers paid for coverage actually went up by only about 4%.

For 1984, employee premium contributions in the 150 federal health plans will increase on an average by about 19%. The federal government, which pays about 60% of most employees' health insurance premiums, will increase its contribution by 13%.

The actual increases among the plans will vary widely, however, with the employee's cost of the Aetna government-wide, high option family plan rising by about 87% to \$109.01 a month while the employee's cost of the Blue Cross and Blue Shield government-wide high option family plan will rise to \$140.97 a month, or about 16% more than this year. The largest HMO in the program — the Kaiser plan in Oakland, CA — will cost the employee \$41.69 per month for family coverage, 17.6% more than this year. Many of the other 130 HMOs in the federal health program will have even lower increases and some will actually reduce prices.

The new plans become effective January 1. The selection period, called an open season, begins November 14 and runs to December 9. About 10 million federal employees, retirees and dependents are covered by the federal health plans.

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### HHS Appropriations Bill Passed First Time In Five Years

For the first time in five years, Congress gave final approval to an appropriations bill for the Departments of Health and Human Services, Labor and Education. The \$104.4 billion measure, passed on October 20, provides funding for fiscal 1984. The President was expected to sign it even though it exceeded his budget request.

The bill contains about \$64.7 billion for HHS, including \$13 million for the professional standards review organization (PSRO) program, which the White House Office of Management and Budget had tried to eliminate through the appropriations process. Funding for several programs, including health planning and nurse training, was deferred since the programs have not been reauthorized by Congress. These programs will continue to operate for the time being under a continuing resolution that funded them through November 10.

The bill also includes:

- \$1.3 billion for the Health Resources and Services Administration which encompasses the maternal and child health block grant funded at \$399 million, community health centers which will get \$327 million, and the National Health Service Corps funded at \$89.3 million.
- \$374.5 million for the Centers for Disease Control, including \$88 million for a disease prevention block grant. CDC and the National Institutes of Health will share some \$41.6 million in funds to address the Acquired Immune Deficiency (AIDS) problem.
- \$4.4 billion for the National Institutes of Health, including \$1 billion for the Cancer Institute and \$674.6 million for the Heart, Lung and Blood Institute. The bill also includes \$3.5 million for up to five Alzheimer Disease Research Centers and sets aside \$10 million for research on neurological disorders in "honor" of former Sen. Jacob Javits who suffers from Lou Gehrig's disease.
- \$34.4 billion for the Health Care Financing Administration, including \$15.6 billion in Medicaid grants to states, \$17.7 billion in payments to the health trust funds, and \$13 million for PSROs.

The PSRO money is intended to keep approximately 140 PSROs still in operation going until they are replaced by Peer Review Organizations (PROs). OMB wanted to eliminate the PSROs

but HCFA argued that they were necessary to keep tabs on hospital performance under Medicare's new prospective pricing scheme until the PROs are in place. The House bill contained no money for PSROs and the Senate included \$17 million. PSROs had said they needed at least \$15 million to conduct reviews until the PROs are up and running. The final appropriations measure also deletes House language that would have prohibited future funding for PROs. The PROs will be funded through the Medicare trust funds.

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### **New Ethics Commission Proposed In Congress**

Six months after the demise of the President's Commission for the Study of Ethical Problems in Medicine, members of Congress are drafting proposals to form another decision-making body.

These preliminary proposals, however, are dramatically different. One proposal, drafted by Sen. Edward Kennedy (D-MA), would place the commission within the Institute of Medicine. The second, drawn up by Sen. Jeremiah Denton (R-AL), would place it under the wing of the Office of Technology Assessment.

The differences originate with one basic disagreement: who should influence commission decisions. Sen. Kennedy believes that the commission should stand apart from Congress; any political influence would threaten the objectivity of a commission, he says. Sen. Denton believes that the commission should be responsive to the concerns of Congress; elected officials have a responsibility to guide the decision-making process, he counters.

"We want the commission to be composed of people in the (scientific) field, who can operate freely regardless of the nature of their conclusions," says a Kennedy spokesman. Under the Kennedy plan, the commission would be funded by a grant that could be discontinued if Congress is dissatisfied with its work. Members of the commission would be appointed by the Institute of Medicine.

In contrast, Sen. Denton wants the commission to be composed of members of the OTA staff, who would participate according to their area of expertise. Consultants and outside specialists would be called in to offer their opinions. "(The former commission) became an extra-legislative body, with no process of ratification. We don't

want it to have that stamp of authority," said a Denton staffer.

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### **FDA's OTC Drug Review Winds Down**

After 11 years of effort, the Food and Drug Administration has compiled a new list of the nation's safe and effective nonprescription drugs.

Only one-third of the 700 key ingredients reviewed were found to be safe and effective. However, many popular products contain both effective ingredients and ineffective ingredients which are still being tested.

As a result of the study's recommendations, consumers can now buy many former prescription drug products over-the-counter, such as: hydrocortisone; two antifungals; seven antihistamine or nasal decongestant ingredients; diphenhydramine hydrochloride and diphenhydramine monohydrate as nighttime sleep-aid ingredients; and dyclonine hydrochloride as a pain reliever and anesthetic in mouthwashes, gargles, and lozenges.

But the review also pulled many over-the-counter products from the market, such as: sweet spirits of nitre; camphorated oil; hexachlorophene, and all daytime sedative products promoted to relieve "simple nervous tension."

Many manufacturers have reformulated products to take advantage of the study's recommendations. Additionally, some manufacturers improved directions, warnings, or consumer information on product labels. Much work still remains, however, to convert the study's recommendations into regulatory action, the FDA says.

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### **Direct-To-Consumer Rx Ads Nixed By Consumers**

A Food and Drug Administration survey shows that the vast majority of consumers attending FDA public hearings around the country have serious concerns about direct-to-consumer advertising of prescription drugs.

"Opposition to direct-to-consumer drug advertising is surprisingly unified. It is also clear that consumers want to participate in the development of a policy on direct-to-consumer advertising as it develops," concluded Alexander Grant, of the FDA's Office of Consumer Affairs.

Approximately 60% of the surveyed public — 950 persons attending 38 FDA hearings last summer — opposed advertising under any circum-



stances. Around 20% opposed advertising unless controlled by strict FDA regulations. Only 20% of the public voiced support for direct-to-consumer advertising.

Persons opposed to advertising without strict supervision said that FDA should prohibit advertising of brand-name products, drugs for serious or chronic conditions, or new products not yet evaluated by physicians. Opposition was cited because they thought such advertising would increase drug prices, confuse the public, disrupt the patient-physician relationships, and present an unbalanced picture of drug risks and benefits.

The survey received a mixed reaction at FDA, which is struggling to design a formal policy on this new form of promotion. Some experts said it does not represent general public opinion, because only more vocal consumers attended the hearings. However, others said that the audiences were well-balanced, containing not only consumer advocates but health professionals, academicians, and drug and advertising industry representatives as well.

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### Infant Formula Labeling Change

The Food and Drug Administration reviewed comments this month on its proposed revisions to the labeling of proposed infant formula.

FDA wants to add a list of all nutrients, the expiration date, and a pictogram to indicate the need for dilution. Under the proposal, the statement "Do Not Add Water" or "Add Water" would be displayed prominently on the formula's display panel, reducing confusion between concentrated and ready-to-feed formulas. A pictogram will help mothers who do not read; for example, dilution would be displayed in three drawings: a boiling teapot, boiling water being poured into a measuring cup, and a cup full of water poured into a baby bottle.

Other changes recommended earlier by consumer groups — such as bilingual labeling, a label that endorses breastfeeding, and a list of possible side effects of formula use — were rejected by the FDA.

The regulation is one of final amendment to the now-famous Infant Formula Act of 1980, passed after an outbreak of metabolic alkalosis caused by nutritional deficiencies. Previous amendments revised procedures in recall and quality control.

These changes — proposed after consultations with the American Academy of Pediatrics, the World Health Organization, infant formula manufacturers, and 13 consumer, women's and minority groups — are expected to add a one-time charge of \$50,000 to the formula industry's estimated \$500 million revenue this year.

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### New Researchers In Short Supply

There is a serious shortage of physicians in biomedical research, according to authorities at the National Institutes of Health. The consequence, they fear, may be a breakdown in the transfer of knowledge from the lab to the bedside.

In the past, many of the greatest leaps in clinical medicine could be traced back to the small and slow steps of physicians in the laboratory. For instance, Jesse Roth, M.D., explained the basic defect in cell receptors in diabetes of the obese. Henry Kunkel, M.D., revealed the role of circulating immune complexes in disease. Emil Frei, M.D., and Emil J. Freireich, M.D., developed the curative treatment for childhood leukemia.

But this once-heated love affair between medicine and basic research has cooled in recent years. In 1960, 39% of medical student seniors favored research careers, compared to 25% in 1983. Physicians were the principal investigators of 31.1% of all investigator-initiated NIH grants in 1972, but were the principal investigators of only 20.2% of grants in 1982. In 1968, there were 5,303 young physicians enrolled in NIH's National Research Service Award program; in 1983, there are 1,959 enrollees, 500 fewer than adequate.

Part of the problem, say experts, is low funding. Current NIH funding, in 1983 dollars, remains at 1974 levels. Many of the Institutes' chief proponents have either retired or been voted out of office. Loss of federal support — part of the current Administration's "balance the budget" campaign — is a major contributor.

Academic institutions are limiting repair and renovation to research facilities in the greatest need. Institutions are often unable to provide their basic science researchers and students with the modern labs or equipment needed to conduct state-of-the-art research, says a report by the Association of American Universities.

Low salary levels often fail to attract "the best and the brightest." Roughly \$6,000 separates the salaries of a third-year resident and a first-year

research trainee. Physicians employed by medical school faculty on base salary sustain a lifetime economic loss of \$70,000; physicians employed by NIH sustain an average loss of \$170,000.

Another concern is competition for research money. Physicians entering the research arena find it glutted with Ph.D.s, many of them adept at grantsmanship. The number of grants has stayed constant, while the number of grant applicants has jumped. Moreover, new M.D. applicants compete less well than new Ph.D. applicants, and both groups have a tougher time than M.D./Ph.D. applicants.

The new "humanization" of medical school also works to the young physician's disadvantage. An emphasis on primary care causes students to focus on the clinical side of medicine; training in the techniques and methodology of research is overlooked. Students are not only less interested in a research career, but are also less qualified.

But the need for M.D.s in biomedical research is greater than ever, say experts. The expanding frontiers of virology, molecular biology, pharmacology, cell biology, and immunology open up new opportunities in clinical investigation. "Never before has an excitement seemed so intense—both about recent accomplishments of clinical investigators and about opportunities to come in the next several decades," said NIH Director James Wyngaarden, M.D.

"By every yardstick, we are failing to attract the number of qualified physicians into research training. This shortfall of physician investigators alters the balance between M.D. and Ph.D. investigators deemed essential for a coordinated program in basic science and clinical research," said Dr. Wyngaarden.

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#### **Congressional Attempt To Reschedule Quaaludes**

Two new bills—HR 1055, introduced by Rep. Larry Smith (D-FL), and HR 1097, sponsored by Rep. J. Roy Rowland, M.D. (D-GA)—would change the status of methaqualone (Quaalude) from Schedule II to Schedule I, taking it out of the hands of physicians and putting it in the same category as other drugs with no accepted medical usage, such as heroin, LSD and marijuana.

The dangers and advantages of the drug were recently debated at hearings before a subcommittee of the House Energy and Commerce Committee. Supporters of the proposed legislation say

that methaqualone has limited therapeutic advantages and can be easily substituted. Opponents of the legislation contend that the drug offers distinct advantages: for instance, it may be used in conjunction with anticoagulant therapy and can be used safely for longer periods of time than barbiturates.

Because virtually all sedative and hypnotic drugs have the potential to cause psychic and physical dependence, methaqualone should stay on the market, says Mark Novitch, M.D., Acting Commissioner of the Food and Drug Administration. Besides, the drug is no longer frequently prescribed by physicians, causing a decline in street abuse also, he says.

The change in scheduling is also opposed by the American Medical Association, which argues that the best approach to stop drug abuse is to eliminate the source of illicit drug diversion rather than banning the product. Moreover, Quaalude has an accepted use as a hypnotic agent, and does not satisfy the criteria for rescheduling. The AMA adds that the appropriate route for rescheduling is through the administrative process, not through legislation.

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#### **MINUTES COUNCIL OF THE ARKANSAS MEDICAL SOCIETY OCTOBER 30, 1983**

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, October 30, 1983, in the Camelot Hotel, Little Rock. Present were: Burge, Crow, Wilkins, Weber, J. Kolb, Douglas, Lawson, Lytle, Hestir, Langston, Sanders, Warren, Joyce, Bracken, Clardy, Jouett, Jones, Morgan, Logan, Williams, Lilly, Phillips, Chudy, Saltzman, Fowler, Andrews, P. Kolb, P. Smith, Milton Deneke, Thomas Bruce, Robert Benafield, Charles Rodgers, Dan Berry, W. R. Mashburn, Mrs. Paul Cornell, Ms. Nancy Kintzel, Mr. LaMastus, Mr. Wroten, Mr. Mitchell, Miss Richmond, and C. C. Long.

The Council transacted business as follows:

1. Heard a report on the recent meeting of the AMA House of Delegates by A. E. Andrews.
2. Received information from the AMA field representative, Ms. Kintzel, on recent activities of the AMA.
3. The Council approved actions of the Executive Committee held August 1, 1983, August 24, 1983, and September 12, 1983, as presented



with the exception of the action of August 24th pertaining to the feasibility study recommended by the Long Range Planning Committee. Upon motion of Langston, the Council voted to request that Dr. Long go back to some of the experts in the area and discuss with them in more depth what is needed from the feasibility study and again request bids on a study.

4. Secretary Weber gave the Council a brief report on the special session of the Legislature and the State Legislative Program.
5. Bob Benafield, chairman of the Hospital Committee, presented recommendations of his committee as follows:
  - (A) The Council should approach the Arkansas Hospital Association to establish an on-going committee to work closely together in matters related to DRG's and also to suggest to them that they have regular meetings concerning this matter (with the chairman of the Society's Hospital Committee serving on the joint liaison committee).
  - (B) The committee felt it was extremely important that physician education concerning DRG's be included in the PR regional front office meetings. The committee also recommended that the Society take the role in matters concerning DRG's and set up workshops, seminars, etc., to accomplish this physician education.
  - (C) The committee also felt it would be worthwhile to discuss the possibility of including speakers who are knowledgeable about DRG's for the program of the next Medical Society convention.

Upon motion of Jouett, the Council approved the committee's recommendations.

6. James M. Kolb, Jr., Chairman of the Position Papers Committee, presented papers for consideration of the Council.

Upon motion of Wilkins, the Council approved the paper on Lethal Injection and commended the Committee for its work.

Upon motion of Langston, the Council approved the paper on the Supply and Distribution of Physicians with one editorial change.

Upon motion of Crow, the Council approved the paper on Lay Midwifery.

7. Purcell Smith, Jr., chairman of the Medicine-

Business Liaison Committee, reported for his committee. He reported to the Council that he felt it unlikely that a medicine-business coalition would be established; he expressed the opinion that a more active informal liaison between medicine and business would be appropriate and such activity would be more effective on a local basis. He presented recommendations from his committee that (1) the Council endorse the concept of alternate delivery systems and (2) encourage the members to communicate with their local business representatives, making it known that Society staff personnel and Medical Liaison Committee members would be available for advice, information, and suggestions.

Upon motion of Wilkins, the Council voted to accept the report of the committee with a change in the terminology of recommendation (1) to "the Council directs continued study of and experimentation with the concept of alternate delivery systems."

8. Upon motion of Joyce, the Council approved appointments to the Professional Relations Committee as follows:

Fifth District—John Alexander, Magnolia  
Sixth District—Herb Wren, Texarkana

9. The Council named Ray Jonett to succeed Joe Rushton as a member of the Board of Trustees of the Medical Education Foundation for Arkansas.
10. Upon motion of Wilkins, the Council approved the granting of a charter to the Carroll County Medical Society.
11. Charles Logan reported for the Board of Trustees of the Employee Pension Plan. He recommended to the Council that the funds in the pension trust be invested with Worthen Bank's Collective Investment Fund. There will be an annual management charge of 6/10 of 1% for the first \$500,000 or a minimum of \$300. There would be an additional charge of \$7.50 per participant for maintaining and providing participant records annually, \$3 per distribution check issued, and a fee of 1% upon transfer or termination of the plan.

Upon motion of Wilkins, the Council approved the recommendation of the Board of Trustees.

Dr. Logan presented a further recommendation from the Trustees that the plan be modified to allow participants to have an individually-directed participant account. The charge on an

individually-directed account would be \$75 minimum per year up to \$12,500 and the regular 6/10 of 1% above that amount. The trustees stipulated that the employee would be required to notify the pension trustees of an election to utilize the participant-directed option and that all costs related to the participant-directed account would be borne by the participant.

12. Upon motion of Jones, the Council voted to write Mr. Glen Owens thanking him for his past service and dismissing him from any further service with the employee pension plan.

The Council, in executive session, took the following actions:

1. The Council considered the budget as presented by the chairman of the Budget Com-

mittee, John Hestir. The Council voted to accept the budget as presented with one objector.

2. Dr. Hestir discussed the need for action pertaining to resolution of the problem of the future home office site and after much discussion by various members of the Council, it was voted that the Long Range Planning Committee would be directed to contact various firms that could make a survey and make recommendations and bring these recommendations back to the Council at the next Council meeting.

There being no further action, the Council adjourned.

/s/ John P. Burge, M.D.  
Chairman



# keeping up

## Category 1 Continuing Medical Education Programs Available in Arkansas

### MANAGEMENT OF PSYCHIATRIC DISORDERS IN PRIMARY CARE

Presented by G. Richard Smith, M.D., *February 11, 8:15 a.m. to 4:30 p.m.*, UAMS Ed. II Building, Room G/141 A & B. Six hours Category I credit. Registration fee \$50; UAMS residents and faculty \$7.50.

### HYPERTENSION UPDATE

Sponsored by Baptist Medical Center Department of Medical Education, *February 18, 8:00 a.m. to 12:00 noon*, Shuffield Auditorium, BMC. Four hours Category I credit. \$10 fee.

### PRE-OPERATIVE PULMONARY EVALUATION

Presented by Pete Marvin, M.D., *February 20,*

*6:30 p.m.*, Dining Room, Memorial Hospital, North Little Rock. One hour Category I credit. No fee.

### NEW TRENDS IN ANTIARRHYTHMIC AGENTS

Presented by James E. Doherty, M.D., *March 2*, Excelsior Hotel, Little Rock. Sponsored by University of Arkansas for Medical Sciences. No other information available at this time.

### SURGEON'S SYMPOSIUM

Presented by Robert Barnes, M.D., *March 29*, Arlington Hotel, Hot Springs. Sponsored by University of Arkansas for Medical Sciences. No other information available at this time.

### RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

#### EL DORADO — AHEC-SOUTH ARKANSAS

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



## KEEPING UP

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.  
*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.  
*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

### FAYETTEVILLE — AHEC-Northwest

*Medicine Teaching Conference*, first, third and fifth Thursday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

### FAYETTEVILLE — VA MEDICAL CENTER

*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.  
*Pathology Conference*, second Thursday, 3:00 p.m., Conference Room.  
*Peer Exchange*, February: "Endocrinology"; March: "Infectious Diseases".

### FORT SMITH — AHEC

*Cancer Conference*, each Tuesday, 12:00 noon, Fourth Floor Conference Room, Sparks Regional Medical Center.

### JONESBORO — AHEC-NORTHEAST

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.  
*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.  
*Monthly Perinatal Conference*, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Weekly Medical Lecture Series*, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.  
*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Arkansas Methodist Hospital CME Conference*, last Friday, 7:00 a.m., AMH, Paragould.

### LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Second Floor Classroom.  
*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Second Floor Classroom.  
*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Polly Thomas Dining Room.  
*Infectious Disease Conference*, second Wednesday, 12:00 noon, Second Floor Classroom.  
*Pediatric Pharmacology Conference*, third Wednesday, 12:00 noon, Second Floor Classroom.  
*Problem Case Conference*, each Thursday, 12:00 noon, Second Floor Classroom.  
*Primary Care Seminar and Case Presentation*, each Friday, 12:00 noon, Second Floor Classroom.

### LITTLE ROCK — BAPTIST MEDICAL CENTER

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.  
*Emergency Medicine Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.  
*Case of the Month*, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*General Internal Medicine Conference*, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*Renal Conference*, fifth or last Wednesday each month, 12:00 noon to 1:00 p.m., Conference Room #1. (When there are four Wednesdays in the month, conference will be on fourth Wednesday and there will only be one Case of the Month Conference.)  
*Morbidity and Mortality Conference*, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.  
*Surgery Conference*, second, third, fourth and fifth Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.  
*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.  
*Cardiology Conference*, fourth Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.  
*Cardiopulmonary Resuscitation Course*, fourth Thursday, 7:00 p.m. to 1:00 a.m., Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.

### LITTLE ROCK — ST. VINCENT INFIRMARY

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.  
*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E159, Education Wing.  
*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E159, Education Wing.  
*Gynecology Conference*, second Tuesday, 5:30 p.m. to 6:30 p.m., Doctors Hospital.  
*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory.  
*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.  
*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E159, Education Wing.  
*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.

### TEXARKANA — AHEC-SOUTHWEST

*Tumor Conference*, first Wednesday, 7:00 a.m., St. Michael Hospital.  
*Chest Conference*, third Wednesday, 12:30 p.m., St. Michael Hospital.



## PERSONAL AND NEWS ITEMS

### **GTE Telenet Program**

The Pulaski County Medical Society recently signed a contract with GTE Telenet Medical Information Network to become the distributor for the State of Arkansas for the new AMA/GTE Telenet Program.

Services available to subscribers of the system include Disease Information, Drug Information, Medical Procedure Coding and Nomenclature (CPT), Socioeconomic Bibliographical Information, Clinical Literature Information and Continuing Medical Education Programs through Massachusetts General Hospital. The system also features an electronic mail service entitled MED/MAIL. Other programs are scheduled to be added in the near future.

Randall F. Ort of North Little Rock will head the marketing program for the Society. For further information or demonstration programs, contact Mr. Ort at 500 South University, Suite 311, Little Rock 72205; telephone 664-3402.

### **DR. ROY HONORED**

Dr. F. Hampton Roy of Little Rock was presented an Honorary Professorship by the Rector of the University of San Simon Medical School in Cochabamba, Bolivia, in recognition of his work in that country during the last ten years. Through the World Eye Foundation, Dr. Roy has been assisting the ophthalmologists in improving their training programs.

### **DR. McDOUGAL**

Dr. Richard L. McDougal will be in Dr. Keith Lipsmeyer's Clinic in Morrilton for the practice of Ophthalmology two days per week.

### **DR. GRESHAM NAMED FELLOW**

Dr. Edward A. Gresham of Crossett was named a fellow of the American Academy of Family Physicians during a ceremony at the Academy's annual convention.

### **DR. STEADMAN SPEAKS**

Dr. Hunter Steadman of Bentonville recently spoke at a meeting of the Bates Development Associates.

### **DR. HARDEN MOVES**

Dr. Charles M. Harden, Jr., previously of Gurdon, has opened an office at 509 South Main in Hope.

### **DR. FAIRLEY HONORED**

Dr. Eldon Fairley of Osceola was honored at a reception in recognition of his long service to the community.

### **DR. SWINGLE**

Dr. C. G. Swingle of Marked Tree participated in a career seminar held for students at Marked Tree High School.

### **DR. SPEED LOCATES**

Dr. Gene Speed has opened an office in the Medical Associates Building in England.

### **DR. ROBINSON RECEIVES AWARDS**

Dr. Guy U. Robinson of Dumas has received the Legion of Merit award, the Nation's third highest military decoration, and the Arkansas Distinguished Service Award. Dr. Robinson retired from the Arkansas National Guard after forty years of service. At the time of his retirement, Dr. Robinson held the rank of Colonel.

### **DRS. QUEVILLON AND WILSON SPEAK**

Drs. Robert Quevillon and Steve Wilson of Walnut Ridge spoke at recent meetings of the Kiwanis Club. Dr. Quevillon spoke on blood pressure and Dr. Wilson showed slides made while in Africa.

### **DR. HERSEY IN FORREST CITY**

Dr. Jerry R. Hersey has opened an office for the practice of Family Medicine at 1636 Lindauer Road in Forrest City.

### **DR. NELSON SEMINAR SPEAKER**

Dr. Robert Nelson of Little Rock was one of the speakers for a seminar on "Rehabilitation: A Living Process" sponsored by St. Bernard's Regional Medical Center in Jonesboro.

### **DR. HENDERSON SPEAKS**

Dr. John Henderson of Searcy spoke to the Lions Club on the problems and treatments of heart and circulatory diseases.

### **BOOK COLLECTION AT UNIVERSITY**

The Hans G. Schlumberger Collection of historical scientific/medical books was formally opened for public use at the University of Arkansas for Medical Sciences on November 3rd. The 450-volume collection was presented by the son and widow of Dr. Hans G. Schlumberger, Charles Schlumberger and Mrs. Edd Turner. The family made two additions to the collection at the ceremony—a Holmes Microscope (ca 1895) and an



autographed photograph of Rudolf Virchow. Dr. Schlumberger was chairman of Pathology at UAMS from 1975 until 1961 and was a pioneer in comparative Oncology.

#### DR. FRIED IN GHANA

Dr. and Mrs. David D. Fried spent the month of August 1983 working in the Nelarigu Baptist Hospital in northern Ghana, West Africa. The mission hospital is in a remote part of West Africa just south of the Sahara Desert. At the present time, there is a famine in that part of Africa.

#### DR. VYAS RECERTIFIED

Dr. Dileepkumar Vyas of El Dorado has been recertified in general comprehensive Pediatrics by the American Board of Pediatrics.

#### PULASKI COUNTY SCHOLARSHIP

Dr. Kelsy J. Caplinger, president of the Pulaski County Medical Society, has announced the awarding of a \$3,500 scholarship to Clint H. Hensen, a freshman medical student at the University of Arkansas College of Medicine. Mr. Hensen attended Christian Brothers College in Memphis and completed his undergraduate degree at Arkansas Tech University in Russellville.

The award was presented by Dr. Harold D. Purdy of Little Rock, chairman of the county society's scholarship committee, at the Society's recent annual meeting.

#### DR. WILSON CHIEF OF STAFF

Dr. Harold Wilson of Monticello has been elected Chief of Staff at Drew Memorial Hospital.

#### DR. JOHNSON SPEAKS

Dr. Paulette Johnson of Jacksonville spoke to the PTA on "The Importance of Self Esteem in Children."

#### UNIVERSITY RECEIVES GRANT

The University of Arkansas College of Medicine has received a Federal grant to develop an "Arkansas Genetic Program" to expand current genetic services. Dr. Gilbert Buchanan of Little Rock, director of Crippled Children's Services, will serve as co-director of the program.

#### DR. HOFFMAN SPEAKS

Dr. Carl Hoffman of Rogers spoke to the Hospital Auxiliary on medical and surgical problems of the eyes.

#### DR. EANS ON CHAMBER BOARD

Dr. Thomas L. Eans has been elected to the 1984 Board of Directors of the Heber Springs Chamber of Commerce.

#### DR. SALTZMAN SPEAKS

Dr. Ben Saltzman of Little Rock was one of the guest speakers for a health program sponsored by the University of Arkansas at Pine Bluff.

#### DR. NORTHCUTT SPEAKS

Dr. Carl Northcutt of Stuttgart spoke to the Stuttgart Business and Professional Women's Club on "Wellness."

#### SEMINAR PARTICIPANTS

Drs. Horace Green, Linda Haynie-Green and F. M. Henderson of Pine Bluff were part of the faculty for a seminar, "Science and Technology are the Cornerstones of Modern Society," sponsored by the Pine Bluff High School Science Department.

#### DRS. HARMON AND SELLERS

Drs. Harvey Harmon and Kenneth Sellers of Blytheville served on the panel of examiners for the December examinations given in Memphis by the American Board of Surgery.

#### DR. WIKMAN SPEAKS

Dr. John Wikman of Fort Smith was guest speaker for the Sparks Regional Medical Center's fourth annual Ministers Appreciation Day breakfast.

#### DR. STONESIFER GUEST SPEAKER

Dr. Larry Stonesifer of Little Rock was guest speaker for the Hot Springs chapter of the Arkansas Diabetes Association.



## O B I T U A R Y

#### DR. ROBERT M. BRANSFORD

Dr. Bransford of Texarkana died December 10, 1983. He was born April 30, 1928, in Little Rock.

Dr. Bransford completed three years of pre-medical work at Hendrix College in Conway; he received a B.S.M. degree from the University of Arkansas College of Medicine in 1950. In 1953, he received his medical degree from the same institution.

He served with the United States Air Force Medical Corps from 1954 to 1956 and was a veteran of the Korean War. Dr. Bransford had served

as an instructor in Surgery at the University of Arkansas Medical Center.

In 1961, Dr. Bransford joined the Southern Clinic in Texarkana. He was a former member of the Board of Directors of Wadley Hospital, served on the Board of Admissions and as an associate professor of Surgery at the University of Arkansas College of Medicine, and served as a professional adviser for Arkansas Vocational Rehabilitation Services. Dr. Bransford was a diplomate of the American Board of Surgery, a fellow of the American College of Surgeons, and a member of the Southwestern Surgical Congress.

Dr. Bransford is survived by his wife, Mary Bransford, and two sons.

#### **DR. R. FRANK BRYANT**

Dr. Bryant of Pine Bluff died November 29, 1983. He was born October 25, 1922, in Pine Bluff.

During World War II, Dr. Bryant served with the United States Army.

He was a 1947 graduate of Arkansas AM&N College at Pine Bluff and did post graduate work at St. Louis University. He received his medical degree in 1955 from Meharry Medical College in Nashville, Tennessee.

Dr. Bryant began General Practice in Pine Bluff in 1956. He served as the school physician for the University of Arkansas at Pine Bluff and worked closely with the athletic program as team doctor.

Dr. Bryant was a board member of the local chapter of the March of Dimes, a member of the Pine Bluff-Jefferson County Chamber of Commerce, treasurer of the 20th Century Club, and a member of the Alpha Phi Alpha and Sigma Pi Phi fraternities. He was an accomplished free-lance photographer. Dr. Bryant was a past president of the Jefferson County Medical Society.

He is survived by his wife, Alice Green Bryant, two sons and two daughters.

#### **DR. JOHN H. BURGE**

Dr. Burge died November 17th in Lake Village. He was born in 1903.

He was a 1927 graduate of the University of Arkansas School of Medicine.

Dr. Burge began practicing in Lake Village in 1928 and only recently began to give up his practice. He had owned and operated the Lake Village Infirmary, bringing quality medical care to the area. He used many modes of transportation in his many years of practice. He worked in surgery

with his father-in-law, Dr. E. P. McGehee, and earned a reputation as a skilled surgeon dedicated to serving the ill and disabled. He delivered more than 2,000 babies and performed more than 15,000 operations in his career.

In addition to being an active surgeon, he was a civic leader. He had served as a member of the Arkansas Game and Fish Commission, and as a member of the Lake Village School Board. He was a director of the Bank of Lake Village and was a former chairman of the Chicot County Drainage District.

Dr. Burge was a member of the Southwestern Surgical Congress, a member of the International College of Surgeons and a Fellow of the American College of Surgeons.

Dr. Burge is survived by his wife, Minnie McGehee Burge, two daughters and one son — Dr. John P. Burge, who is chairman of the Council of the Arkansas Medical Society.

#### **DR. GEORGE W. DICKINSON**

Dr. Dickinson of Fayetteville died November 15, 1983. He was born October 12, 1902, in Horatio.

Dr. Dickinson was a 1925 graduate of the University of Arkansas and a 1929 graduate of the University of Arkansas College of Medicine. He joined the United States Navy in 1929 and served his internship with the United States Naval Hospital, Mare Island, California.

While in the Navy, Dr. Dickinson was stationed at Pearl Harbor in December 1941. He retired from the Navy in 1953 with the rank of Rear Admiral.

He practiced for twenty-one years in Palmyra, New Jersey, and held a life membership in the Burlington County Medical Society in New Jersey. Dr. Dickinson moved to DeQueen in 1974 and practiced with his nephews at the DeQueen Clinic until his retirement. Dr. Dickinson was the fifth generation of the Dickinson family to practice in Sevier County. He was a member of the Fifty Year Club of the Arkansas Medical Society and a life member of the Society. In 1981, he moved to Fayetteville.

Dr. Dickinson is survived by his wife, Lillian McDonald Dickinson, two sons and one daughter.

#### **DR. CHALMERS POOL**

Dr. Chalmers Pool of Little Rock died November 16, 1983. He was born November 27, 1909, in Malvern.



His pre-med education was at Henderson State University in Arkadelphia; he was graduated from the University of Arkansas College of Medicine in 1940. Dr. Pool practiced in Hamburg and Malvern before joining the Veterans' Administration Hospital in North Little Rock. He retired from medical practice in 1978.

Dr. Pool was a Mason, a member of the Eastern Star and the Radiology Association and had previously served as a Health Officer for the State Board of Health.

He is survived by his wife, Mathilde Pool.

#### **DR. ROBERT E. RICHARDSON**

Dr. Richardson of Little Rock died November 19, 1983; he was born September 9, 1927, in Little Rock.

He received his pre-medical education at Little

Rock Junior College and the University of Arkansas at Fayetteville. Dr. Richardson is a 1949 graduate of the University of Arkansas College of Medicine. He served his internship and residency at Scott and White Clinic in Temple, Texas. Dr. Richardson was a member of the United States Army from 1951 to 1953, serving with a Mobile Army Surgical Hospital in Korea.

He moved to Little Rock in 1955 and began his practice as a General Surgeon. Dr. Richardson was the first Chief of Surgery at Doctors Hospital.

Dr. Richardson was a member of the Arkansas Arts Center, West Little Rock Rotary Club, and the Bayou Meto Hunting Club. He had been an Eagle Scout and received the Order of the Arrow for his scouting activities.

He is survived by his wife, Joann Travanthan Winters Richardson, one son and four daughters.



#### **NEW MEMBERS**

#### **DR. ALLEN J. DUPLANTIS**

Dr. Duplantis is a new member of the Craighead-Poinsett County Medical Society. He was born in Houston, Texas.

Dr. Duplantis received his pre-medical education at the University of Houston. He was graduated from the University of Texas Medical School at San Antonio in 1975.

He served with the United States Army from 1975 to 1983. While in the Army, he served his internship at Madigan Army Medical Center. At Brooke Army Medical Center, Dr. Duplantis served a residency in Internal Medicine and a Fellowship in Cardiology. From 1980 to 1983, he was on the staff of the William Beaumont Army Medical Center in El Paso.

Dr. Duplantis is board certified in Internal Medicine and Cardiology.

Dr. Duplantis specializes in Cardiology and has an office at 303 East Matthews in Jonesboro.

#### **DR. CHRISTOPHER SULLIVAN**

Dr. Sullivan, a new member of the Franklin County Medical Society, was born in Providence, Rhode Island.

In 1975, he received a Bachelor of Science degree from Boston College. Dr. Sullivan is a 1980 graduate of Tufts University School of Medicine in Boston. His internship and residency were with Evanston Hospital, Evanston, Illinois.

Dr. Sullivan specializes in Internal Medicine. He is associated with Ozark Specialties Clinic at 317 West Commercial in Ozark.

#### **DR. HENRIK MADSEN, II**

Dr. Madsen, a new member of the Garland County Medical Society, was born in Odense, Denmark.

His pre-medical education was with the University of Copenhagen in Denmark. He received his medical degree from the University of Copenhagen in 1960.

From 1960 to 1975, Dr. Madsen practiced Pediatrics, General Medicine and Public Health in Sweden. He also taught at the School of Occupational Therapy in Jonkoping, Sweden, and held the position of Chief Medical Officer in Stockholm, Sweden.

Dr. Madsen received residency training at

Baylor University Medical Center in Dallas. He moved to Hot Springs in August 1982.

Dr. Madsen specializes in Physical Medicine and Rehabilitation. His office is located at 225 Linden in Hot Springs.

**DR. STEPHEN D. SHORTS**

Dr. Shorts has joined the Jefferson County Medical Society. He was born in Lake Charles, Louisiana.

Dr. Shorts received a Bachelor of Science degree from the University of Notre Dame in 1969 and a Master degree in Education in 1973 from the University of Miami, Coral Gables, Florida. He is a 1978 graduate of the Louisiana State University College of Medicine, New Orleans. Dr. Shorts received training in Otorhinolaryngology at the Baylor College of Medicine.

Dr. Shorts has joined the Pine Bluff Ear, Nose and Throat Clinic at 1408 West 43rd in Pine Bluff.

**DR. JANA S. ANGELES**

Dr. Angeles, a native of Ardmore, Oklahoma, has joined the Pulaski County Medical Society.

She received a Bachelor of Science degree from Northeast Louisiana University in Monroe in 1975. She was graduated from the Shreveport

School of Medicine of Louisiana State University in 1979.

Dr. Angeles served a General Surgery internship at Louisiana State University Hospital in Shreveport. She then served a residency in Anesthesiology with the University of Arkansas College of Medicine and was in an Anesthesiology Fellowship at the University.

Dr. Angeles has joined the staff at Memorial Hospital in North Little Rock where she practices Anesthesiology.

**DR. CHARLES F. CALE**

Dr. Cale has joined the Washington County Medical Society. He is a native of Chickasha (Yell County).

Dr. Cale received his pre-medical education at the University of Arkansas in Little Rock from 1957 to 1959. He is a 1963 graduate of the University of Arkansas College of Medicine. After an internship at Hillcrest Medical Center in Tulsa, Oklahoma, Dr. Cale returned to the University for residency training in Anesthesiology.

Dr. Cale practiced for twelve years in Tulsa; he has been practicing in Fayetteville for five years.

Dr. Cale specializes in Anesthesiology. His office is located at 968 Township in Fayetteville.

**RESOLUTIONS**



**DR. ROBERT E. RICHARDSON**

WHEREAS, the members of the Pulaski County Medical Society note with sincere sorrow the recent death of their colleague, Robert E. Richardson, M.D., and

WHEREAS, he was a highly respected member of this organization for twenty-eight years and had given generously of his time and talent to positions of leadership in the medical community; and

WHEREAS, the devotion felt by his patients for his concern and empathy to their individual problems was a hallmark of his practice.

BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted and made a part of the permanent records of this Society; and

THAT, a copy be forwarded to Dr. Richard-

son's family as an expression of our deep sympathy; and

THAT, a copy be made available to the Journal of the Arkansas Medical Society for publication.

Adopted by Membership,

Pulaski County Medical Society

/s/ Kelsy J. Caplinger, M.D., President

\* \* \* \*

**MR. EUGENE C. SPRATT**

WHEREAS, Eugene C. Spratt devoted a career of distinguished service to the cause of public health in Arkansas through both the Arkansas Department of Health and the Arkansas Public Health Association, as evidenced by his being awarded the APHA Outstanding Achievement Award, and

WHEREAS, Eugene C. Spratt devoted thirty-three years of diligent and successful service in the areas of hospital construction and health facilities services in Arkansas, and

WHEREAS, Eugene C. Spratt was recognized by the health professionals as a dedicated leader



in the regulation of hospitals and other health facilities in Arkansas, earning awards of merit not only from the Arkansas Hospital Association and the Arkansas Nursing Home Association, but also from the United States Department of Health and Human Services and the Arkansas General Assembly, and

WHEREAS, The Arkansas Board of Health, the Arkansas Department of Health and his many friends deeply mourn his death and wish to express gratitude for his service,

THEREFORE, BE IT RESOLVED by the

Arkansas Board of Health, in its regular quarterly meeting, assembled on October 27, 1983, to adopt this resolution and to express the sadness but gratitude of the Arkansas Department of Health and its ninety-six local health units in seventy-five counties, and to direct that a copy be included in the minutes of the Board of Health, a copy be sent to his family, and a copy be published in the Journal of the Arkansas Medical Society.

/s/ James E. McClelland, President  
Arkansas Board of Health

/s/ Ben N. Saltzman, M.D., Director  
Arkansas Department of Health



THINGS



TO

COME

The University of Kansas College of Health Sciences and Hospital in Kansas City has announced programs as listed below. For information not given, contact Jan Johnston, Office of Continuing Education, University of Kansas Medical Center, Rainbow at Olathe Boulevard, Kansas City, Kansas 66103; telephone 913-588-4480.

#### March 1-2

*The Microcomputer Jungle: Impact on Health Care.* Battenfeld Auditorium, University of Kansas Medical Center, 39th and Rainbow, Kansas City, Kansas. 15 hours AMA, CNE, PT, SW; 13.5 hours AAFP. Registration fee: \$90 for physicians, nurses, therapists; \$45 for students and residents.

#### March 15

*Sports Medicine: Rehabilitation of the Injured Athlete.* Westin-Crown Center, Kansas City, Missouri. CME credit: pending. Registration fee: \$75 for health professionals; \$30 for students and residents. (Reduced fees for registering for both this and the Midwest Pain Society Meeting in advance.)

#### March 16-17

*Midwest Pain Society 8th Annual Scientific Meeting; "Practical Management of Common Pain Syndromes."* Westin-Crown Center, Kansas

City, Missouri. CME Credit: pending. Registration fee: \$90 for non-members, Midwest Pain Society; \$80 members, Midwest Pain Society; \$40 full time students and residents. (Reduced fees for registering for both this and the Sports Medicine meeting in advance.)

#### March 29-31

*Arkansas Chapter, American College of Surgeons.* Arlington Hotel, Hot Springs.

#### April 1-4

*Pediatric Ophthalmology and Strabismus.* Sponsored by the American Association of Certified Orthoptists and the Department of Ophthalmology, Arkansas Children's Hospital, University of Arkansas for Medical Sciences. Excelsior Hotel, Little Rock. 15 hours AMA Category I. Registration fee: \$100 physicians; \$60 Orthoptists, technicians, nurses, and residents. For additional information and registration, contact Blanche Moore, Office of Continuing Education, Arkansas Children's Hospital, Post Office Drawer 2222, Little Rock 72203; telephone 370-1150.

#### April 28-29

*Nutritional Care Symposium.* Sponsored by St. Vincent Infirmary in cooperation with the University of Arkansas for Medical Sciences. 10 hours of continuing education credit for physicians. For further information, contact Fran Scheving, Two St. Vincent Circle, Little Rock 72205-5499; telephone 661-3680.

#### June 14-16

*American Cancer Society National Conference on Radiation Oncology—1984.* San Francisco Hil-

## THINGS TO COME

ton Hotel, California. Held in cooperation with American Society of Therapeutic Radiologists and Oncologists; Commission on Cancer of the American College of Radiology; American Radium Society; and American Association of Physicists in Medicine. 16 hours Category I AMA; 16 credit hours in Category 2-D of the American Osteopathic Association.

For further information, American Cancer Society, National Conference on Radiation On-

cology—1984, 777 Third Avenue, New York, New York 10017.

### **September 3-7**

*XV International Congress of the International Academy of Pathology.* Fontainebleau Hilton, Miami Beach, Florida. For further information, contact the Congress Secretariat, United States-Canadian Division of the International Academy of Pathology, 1003 Chafee Avenue, Augusta, Georgia 30904; telephone 404-724-2973.





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# Treatment of Massive Hemoptysis with Unilateral Lung Ventilation and Bronchial Artery Embolization

Kevin McCusker, M.D.,\* David Nicholson, M.D.,\*\* and Ernest Ferris, M.D.\*\*\*

## ABSTRACT

A 62-year-old white male developed life threatening hemoptysis. Management consisted of unilateral lung ventilation followed by bronchial artery embolization with Gelfoam. This method requires a team approach toward airway management and angiographic intervention. Unilateral ventilation of the lung with a large bore single lumen tube may offer some benefit over use of double lumen tubes in this setting.

Massive hemoptysis is a life-threatening condition. Standard therapy consists of ventilatory support until the bleeding into the airway can be controlled. Several methods are used to control bleeding: emergency pneumonectomy, occlusion of the bleeding subsegment of the lung with a Fogarty catheter, balloon occlusion of the pulmonary artery, vasopressin infusion, and bronchial artery embolization.<sup>1-5</sup> Since most patients with massive hemoptysis will have embarrassment of the airway and gas exchange, surgery is potentially risky. Therefore, less invasive methods, if available, may be of benefit to the patient. This paper reports treatment of massive hemoptysis by unilateral lung ventilation followed by bronchial artery embolization.

## CASE HISTORY

A 62-year-old white male presented to the Little Rock Veteran's Administration Hospital on 5/23/82 complaining of coughing up 1/2 cup of bright red blood during the day of admission. He had no previous history of hemoptysis. He had a

60 pack year smoking history. There were no other associated pulmonary symptoms.

Past medical history was positive for heavy alcohol intake and Parkinson's disease. Review of symptoms was negative. Physical examination showed a middle aged man in no acute distress. Blood pressure was 180/110 mm Hg; other vital signs were normal. Chest exam was normal. There was evidence of recent bleeding in both anterior nares and the hypopharynx.

Hemoglobin was 14 g/dl, platelet count was 132,000. Clotting studies were normal. EKG showed possible left ventricular hypertrophy. Chest radiograph showed calcified granulomas. (Figure 1a) Fiberoptic bronchoscopy showed



Figure 1A.  
Chest roentgenograph day of admission.

blood in the anterior nares. Vocal cords were normal, and a systematic examination of the tracheobronchial tree revealed changes of chronic bronchitis but no active bleeding sites.

The patient was placed at bed rest and given oral codeine. The following day he began to

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## TREATMENT OF MASSIVE HEMOPTYSIS WITH UNILATERAL LUNG VENTILATION AND BRONCHIAL ARTERY EMBOLIZATION

cough large amounts of red blood. By late afternoon, his hematocrit was 32. Repeat bronchoscopy showed pulsating blood flow from the left lower lobe. The patient was immediately intubated over the bronchoscope with a #9 endotracheal tube. The tip of the endotracheal tube was positioned in the right mainstem bronchus just proximal to the take off of the right upper lobe. Chest radiograph 20 minutes after intubation showed opacification of the left lung. (Figure 1b)

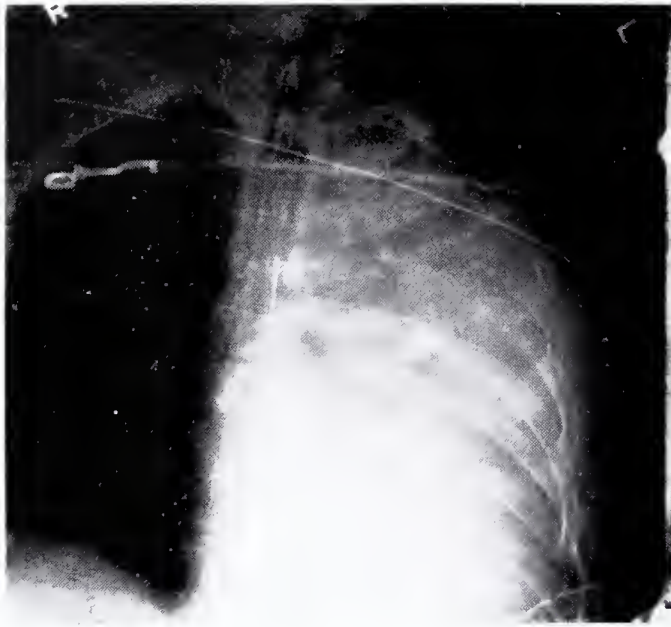


Figure 1b.

Chest roentgenograph 20 minutes after selective right mainstem bronchus intubation.

A Berman catheter was introduced into the right femoral vein and flow directed into the left pulmonary artery. Anteriography of the left lung was normal. The left bronchial artery take-off was then catheterized via the right femoral artery. Its origin was on the right side of the aortic arch, an unusual location.<sup>6</sup> Contrast injection showed extravasation into the left lower lobe bronchus. (Figure 1c) The bleeding bronchial artery was then partially occluded with 12 small pieces of Gelfoam.

The patient was returned to the medical intensive care unit where careful lavage of the left lung was performed to remove clots. Thirty-six hours later, the chest radiograph was nearly normal, and the patient was successfully extubated. He had no further episodes of hemoptysis. At follow-up visit one month later, he had no complaints.

### DISCUSSION

Several aspects of the management of this case

are of interest. First, intubation of the right mainstem bronchus provided protection of the right lung airway and allowed adequate gas exchange until his bleeding could be controlled. We decided to use a large single lumen tube so that a fiberoptic bronchoscope could be passed easily to suction blood which had spilled into the right lung. Further, a double lumen tube can be difficult to insert.<sup>7</sup> The rapid accumulation of blood in the left lung demonstrated in Figure 1b shows the need for immediate protection of the airway. Thus, the technically easier method of selective intubation of the contralateral lung with a single lumen tube may be safer for the patient in this situation.

The cineangiogram demonstrated bleeding from the left bronchial artery. Cineangiography offer some technical advantages over conventional roentgenograms in that a dynamic examination may illustrate extravasation. However, cineangiography does not provide the feasibility of subtraction films to demonstrate the spinal artery, which may come off the right intercostal bronchial artery trunk.<sup>6</sup> In this instance, the cineangiogram clearly demonstrated that the left bronchial artery arose from the aorta and was a true bronchial artery. Hence, it would be distinctly unusual for a spinal artery to originate from this vessel. Therefore, embolization was initiated immediately.

Bronchial artery embolization offers dramatic results in patients with massive hemoptysis.<sup>5</sup> The procedure can be done rapidly with little risk to the patient. Control of massive blood loss by arterial embolization may obviate a thoracotomy.

We conclude that bronchial artery embolization can be used to treat massive hemoptysis if adequate ventilatory support can be provided during the radiographic intervention. This method requires a team approach toward airway management and angiographic intervention.<sup>8</sup>

### REFERENCES

1. Crocco, J. A., Rooney, J. J., Fankushen, D. S., DiBenedetto, R. J., and Lyons, H. A.: Massive hemoptysis. *Arch. Intern. Med.* 1968; 121:495-498.
2. Swersky, R. B., Chang, J. B., Wisoff, B. G., and Gorvey, J.: Endobronchial balloon tamponade of hemoptysis in patients with cystic fibrosis. *Ann. Thorac. Surg.* 1979; 27:262-264.
3. Terry, P. B., Barth, K. H., Kaufman, S. L., and White, R. I., Jr.: Balloon embolization for treatment of pulmonary arteriovenous fistulas. *New Engl. J. Med.* 1980; 302:1189-90.



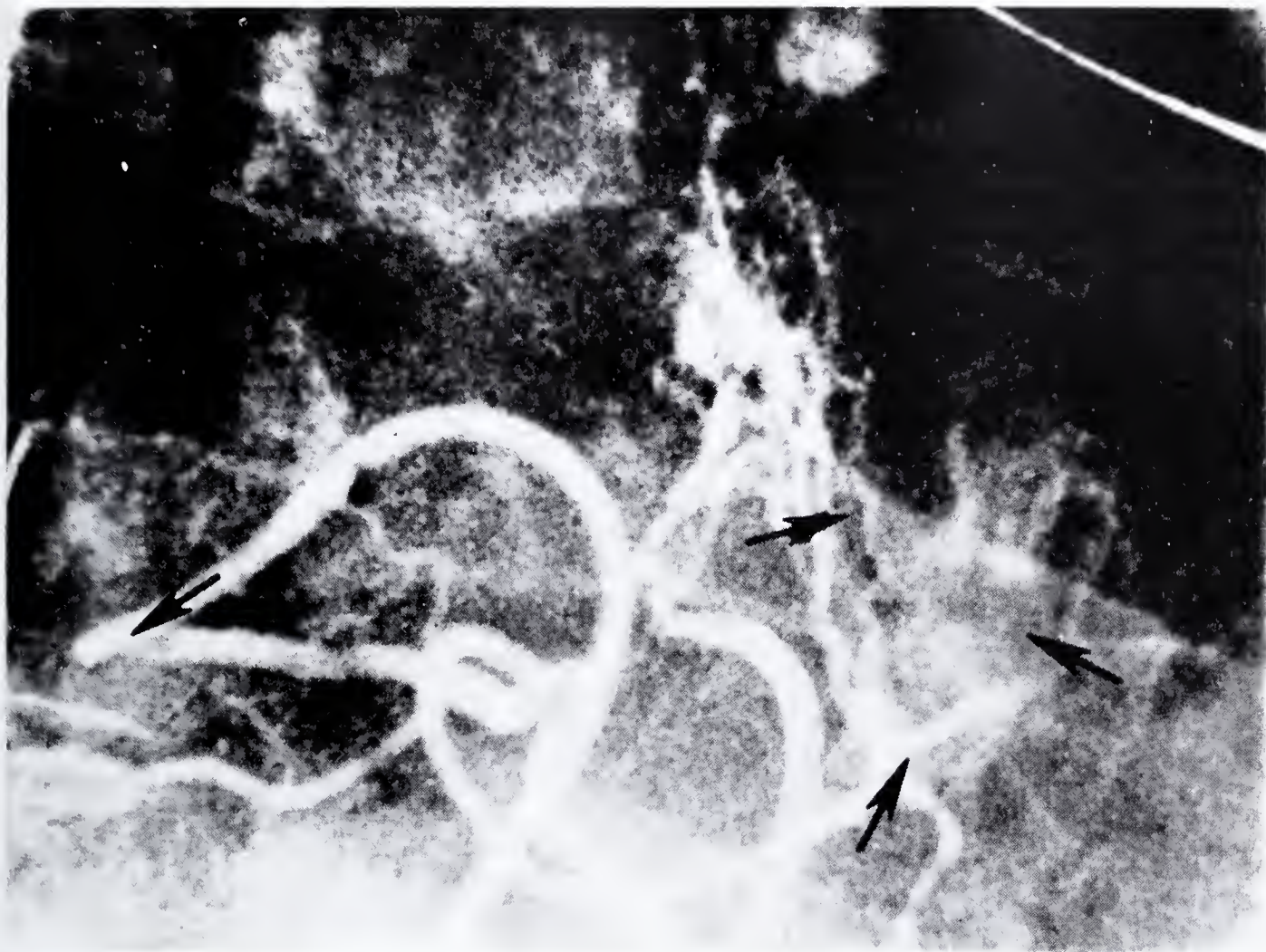


Figure 1C.

Bronchial arteriogram. Arrows show left bronchial artery and active extravasation of contrast into left lower lobe bronchus.

4. Magee, G., and Williams, M. H.: Treatment of massive hemoptysis with intravenous pitressin. *Lung* 1982; 160: 165-169.
5. Ferris, E. J.: Pulmonary hemorrhage, vascular evaluation and interventional therapy. *Chest* 1981; 80:710-714.
6. Milne, E. N. C.: Bronchial arteriography. In: Abrams,

H. L., ed. *Angiography*, Vol. 1. Boston: Little, Brown and Co., 1971.

7. Read, R. C., Friday, C. D., and Eason, C. N.: Prospective study of the Robertshaw endobronchial catheter in thoracic surgery. *Annals Thor. Surg.* 1977; 24:156-151.
8. Druy, E. M.: Interventional Radiology. *Arch. Int. Med.* 1982; 142:456-461.



# Dieting and Carotenemia — Sometimes a Cause and Effect

John D. Wells, M.D.\*

## SUMMARY

Yellowish discoloration of the skin occurred in two patients while dieting. Ingestion of carrots as low calorie food items had produced carotenemia. A complete dietary history in patients with xanthoderma on weight control diets is essential.

Carotenemia is a disorder associated with increased blood concentrations of carotene frequently due to excessive ingestion of foods containing large amounts of this substance. Because many low calorie foods like carrots contain large percentages of carotene, many dieters ingest a great quantity of this substance, often resulting in carotenemia. This can be alarming to both patient and physician if the problem is not identified quickly. Although the relationship between dieting and the ingestion of carrots has been variously referred to by others,<sup>1-3</sup> the following two cases emphasize the clinical significance of this association.

Case No. 1—A. G., a 39-year-old white female food checker, presented to the office because friends and family had noticed she was "turning yellow." She felt well, but admitted she had been trying to lose weight. Because she liked the taste of carrots (cooked and uncooked) and because carrots are known to have a low calorie content, she had consumed six to eight large carrots per day for the preceding eight weeks. The physical examination showed yellowish discoloration of the nasolabial folds of the face, forearms, and palms of the hands. The sclerae were not icteric, and there was no hepatomegaly. The laboratory data revealed normal values for CBC, urinalysis, liver function studies, T4, and cholesterol. The serum carotene was elevated to 680 mcg/dl (normal 60 to 200 mcg/dl). The yellowish skin changes cleared within four to six weeks after the ingestion of carrots was stopped.

Case No. 2—A. W., a 34-year-old white female bank teller, came to the office after a nurse friend commented that she had a yellow color to her face. The patient had noted that her hands were "yellow as a pumpkin." She reported a 20-pound weight loss over the past 12 months while on a

"Weight Watchers Diet." She also reported that she liked carrots and usually ate six carrots per day. However, for the past two weeks she had not eaten carrots to see if the yellow skin color would fade. The physical examination showed yellowish discoloration of the skin, especially the hands, back, face, and abdomen. The sclerae were non-icteric, and the mucous membranes were unremarkable. There was no hepatomegaly. The laboratory data revealed a normal CBC, liver profile, and cholesterol. The serum carotene was elevated at 409 mcg/dl. After abstaining from eating carrots for an additional three weeks, the yellow skin coloration faded.

## COMMENT

Carotenemia due to excessive ingestion of carrots was first described in the United States in 1919.<sup>4</sup> Most previous cases were described during World War II, especially in Great Britain, when meats and other food items were in short supply. Today dieters often use carrots for snacks and as substitutes for high calorie food items. One large carrot, weighing approximately 100 grams, contains 42 calories.<sup>5</sup>

Since weight loss is the primary objective in calorie reduction diets, another disorder which may be confused with "dieter's carotenemia" is uncontrolled diabetes mellitus. In this condition, carotenemia may be present due to hyperlipemia, which results in increased amounts of betalipoproteins, the major carriers of carotene in the blood. Other associated symptomatology usually suggests the diagnosis of uncontrolled diabetes mellitus so that differentiation of these two disorders is not difficult.

The clinical condition most commonly confused with carotenemia is jaundice. However, the absence of yellowish discoloration of the sclerae and mucous membranes in carotenemia should make this differentiation not difficult. A simple laboratory method, described by Cohen,<sup>1</sup> can quickly separate jaundice from carotenemia as described below:

"Equal volumes of serum, absolute alcohol, and petroleum ether are shaken together in a test tube, and left to stand. In carotenemia, the top layer of petroleum ether shows a yellowish discoloration. In jaundice, it is the middle layer of alcohol

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that the bile pigments are dissolved, and these often color also the bottom layer of precipitated proteins."

Most authorities agree that carotenemia is a benign condition. However, when it is associated with hypervitaminosis A, significant hepatotoxicity has been reported and in some cases the hepatic injury appears irreversible.<sup>6</sup>

Because of the expense and anxiety that may prevail if "dieters carotenemia" is not quickly diagnosed, a careful dietary history should be obtained in any patient with yellowish skin discoloration; particularly if a recent effort has been made at weight control.

#### BIBLIOGRAPHY

1. Cohen, L.: "Observations on Carotenemia," *Ann. Int. Med.* 48:221, 1958.
2. Goodheart, R. S., and Shills, M. E.: "Modern Nutrition In Health and Disease," 6th Edition, Philadelphia, Lea and Febiger, 1980, p. 154.
3. Lescari, A. D.: "Carotenemia, A Review," *Clinical Pediatrics* 20:26, 1981.
4. Hess, A. F., and Myers, V. C.: "Carotenemia: A New Clinical Picture," *J.A.M.A.* 73:1743, 1919.
5. Bowes and Church: "Food Values of Portions Commonly Used," 13th Edition, J. D. Lippincott, 1980, p. 139.
6. Farrell, G. C., Blathal, P. S., and Powell, L. W.: "Abnormal Liver Functions in Chronic Hypervitaminosis A," *Digest. DIS.* 22:724-728, 1977.



## ELECTROCARDIOGRAM

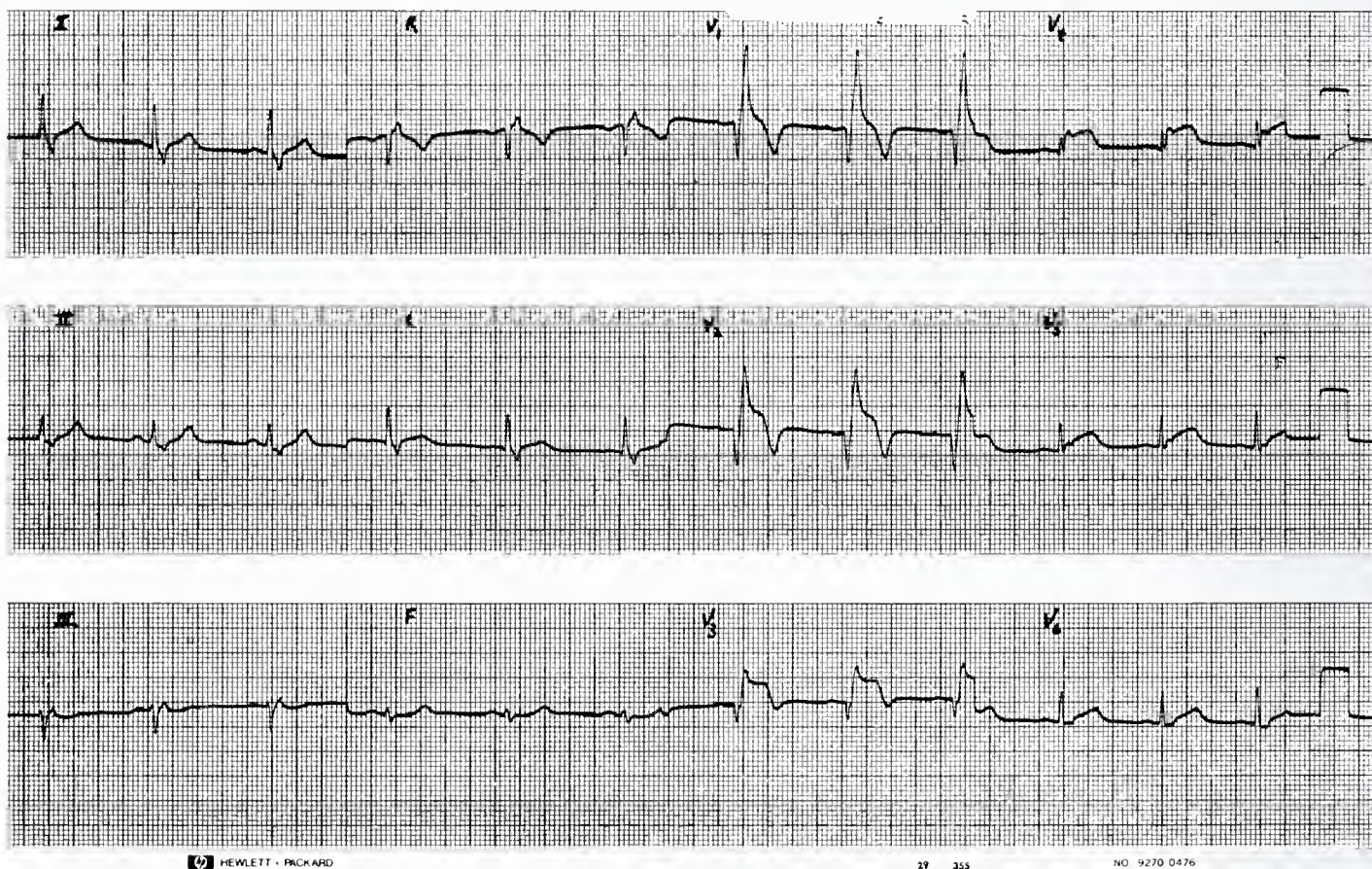


## OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 403)

**HISTORY:** S. O. is a 50-year-old man who presented to the hospital with crushing substernal chest pain of two hours duration. His blood pressure was 80/40 mmHg, crackles were present in both lungs, and an S<sub>3</sub> gallop was noted. A prior electrocardiogram was normal. What do you think about the trace?



J. Lynn Davis, M.D., and John W. Watson, M.D.

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# Office Orthopaedics

## Nerve Entrapment Syndromes

I. Leighton Millard, M.D.\*

### I

This article is intended to provide a summary and a memory-jogger of symptoms, clinical findings and appropriate special tests that will aid in diagnosis and treatment of nerve entrapment syndromes.

### II

Extremity pain and/or loss of function is often caused by entrapment of a nerve. The treatment of this problem depends on accurate establishment of the diagnosis. In turn, diagnosing the location of the nerve pressure requires a high degree of suspicion and some basic anatomical knowledge.

### III

We should remember that nerve entrapment can and does have two components or mechanisms that produce changes in nerve function. Compression neuropathy or neuropraxia accompanied by stretching of the compromised nerve are the basic neurophysiological changes that occur. With prolonged compression, wallerian degeneration can occur (known as axonotmesis).

### IV

Pain, paresthesias and/or weakness are the clinical manifestations of these nerve changes and the anatomical location will determine to a large extent the necessity to surgically relieve the nerve pressure or irritation.

### V

Figures I and II represent the more common nerve entrapment syndromes of the extremities. It is evident that the history is very important in localizing the nerve compression and that the Tinel's sign is very important as a confirmatory test. In those cases where the nerve is superficial enough to be accessible, a light tapping of the

course of the nerve proceeding from proximal to distal will reproduce the patient's symptoms when the irritated area of nerve is reached. It is also apparent that electromyography and nerve conduction testing are important diagnostic tools but we must remember that positive findings on these tests may lag as much as 2-3 weeks behind the onset of symptoms.

### VI

#### GLOSSARY

EMG: electromyography

NCT: nerve conduction test

(motor and sensory)

Pinch Sign: no active flexion at tips of thumb and index finger

Phalens: forced maximum passive flexion at wrist for one minute—when positive, causes paresthesias or pain in palm of the hand

Froments: hyperflexion of the tips of the thumb and index finger when pinching

Allens: examiner compresses the radial and ulnar arteries with hand above patient's head—if releasing radial allows "pinking up" of the hand; then holding radial and releasing ulnar allows "pinking up", then both arteries are patent

NSAID: non steroidal anti-inflammatory drug

ASIS: anterior superior iliac spine

### VII

A word of explanation is necessary in regard to the treatment columns of Figures I and II. In many instances, rest by splinting and/or sling will relieve symptoms; but, if symptoms persist or worsen, surgery must be considered. In some instances of radial nerve pressure, surgery should be

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delayed as much as 3-4 months.

VIII

Patients who do not seek medical treatment until permanent nerve damage and joint contractures have developed may still be aided in regaining function by surgical tendon transfers.

IX

Nerve entrapment should always be considered in the differential diagnosis of any painful extremity, especially if any history of numbness or

tingling is elicited.

BIBLIOGRAPHY

1. Osterman, Bora: Compression Neuropathy. Clin. Orthop. 163:20-32, March 1982.
2. Gelberman: The Carpal Tunnel Syndrome. J. Bone Joint Surg. 63-A:380-383, March 1981.
3. Craven: Cubital Tunnel Syndrome. J. Bone Joint Surg. 62-A16:986-988, September 1980.
4. Gessini: Entrapment Neuropathies of the Median Nerve At and Above the Elbow. Surg. Neurol. 19:112-116, 1983.

FIGURE I

Nerve	Syndrome	Compression Area	Findings	Special Studies	Treatment
Median	Intracavicular	Clavicular	Pain-Paresthesia Arm & Forearm	Venography Arteriography	1. Surgery
	Supracondylar	Humeral Bone Spur	Same Forearm & Palm	X-rays	1. Surgery
	Pronator	Lacertus Fibrosus at Elbow	Poor Sensation & Motor Weakness Thumb & Fingers	EMG, NCT	1. Splinting 2. Surgery
	Anterior Interosseus	Ulnar Forearm	Pinch Sign	EMG, NCT	1. Splinting 2. Surgery
Ulnar	Cubital Tunnel	Medial Elbow	Sensory Loss Ring & Little Froment's Sign Tinel's	EMG, NCT X-rays	1. Splinting 2. NSAID 3. Surgery
	Guyon's Canal	Ulnar Palmar	Sensory Loss & Pain Ring & Little	Tinel's Allen's	1. Surgery
Radial	Saturday Night Palsy	Proximal-Medial Upper Arm	Numb Hand Loss Thumb & Wrist Extension	EMG	1. Sling-Time 2. NSAID 3. Surgery
	Post. Interosseous	Proximal Volar Forearm	Loss Thumb Extension	EMG	1. Surgery
	Superficial Radial	Dorsal Distal Forearm	Pain & Paresthesia Dorsal Thumb Web	Tinel's	1. Remove watch 2. NSAID 3. Surgery

FIGURE II

Nerve	Syndrome	Compression Area	Findings	Special Studies	Treatment
Anterior Lateral Femoral Cutaneous	Meralgia Paresthetica	Inguinal Ligament at ASIS Tight Belt Obesity	Paresthesias in Ant-Lat Thigh + Modified Tinel's	Local Block Anesthesia NCT	1. Remove tight Garments 2. Steroid Injection 3. Surgery
Sciatic	Pyriformis	Trauma and/or Tendinitis	+ SLR + Modified Tinel's Palpable Mass	EMG Local Block NCT	1. Remove Wallet 2. Steroid Injection
Peroneal	Drop Foot	Pressure at Fibular Head Casting Ganglion Cyst	Gluteal Atrophy Dropfoot Sensory Loss?	EMG NCT	1. Change Posture 2. Relieve Pressure 3. Dropfoot Brace
Posterior Tibial	Tarsal Tunnel	Medial Foot	+ Tinel's Sensory Loss	NCT EMG X-ray	1. Special Shoes 2. Orthotics 3. Surgery
Interdigital	Morton's Neuroma	Metatarsal Heads	Pain & Paresthesia of Toes Shoe Removal Relieves Pain	Local Anesthesia	1. Surgery





# Manifestations of Cultural Transition Presenting as Health Problems in Southeast Asian Refugees

Lucy Towbin, M.S.W.\*

From October 1982 through September 1983, 143 newly-arriving refugees came to Arkansas. This does not include secondary migrants from other states, whose numbers are harder to determine. The new arrivals included 76 Vietnamese, 19 Laotians, 16 Khmer (Cambodians), 12 Iraqis, 11 Polish, 6 Rumanians and 3 Hungarians. Sebastian, Pulaski and Benton counties had the highest number of arrivals, with a few in seven other counties scattered around the state. It is estimated that the total number of refugees living in Arkansas is 4,000-6,300. The typical new arrival is under forty years old and is sponsored by a family member already living in Arkansas. Although the number of new refugees in the United States has decreased the last two years, the Office on Refugee Resettlement expects 72,000 in 1984. This includes 50,000 from Southeast Asia.<sup>1</sup>

This paper will make some generalizations about presenting problems of refugees from Southeast Asia. It is hoped that this will be helpful to the Arkansas physician with a Southeast Asian refugee patient.

## THE TRAUMA OF TRANSITION

Even in the best circumstances people experience culture shock when they move to a country with a culture quite different from their own. A refugee coming to the United States has probably had a number of additional stresses that an immigrant wouldn't have experienced. Stressful experiences most refugees have had include:

1. Traumatic and violent uprooting from homeland.

2. Shock of separation from family and friends.
3. Long and uncertain periods of waiting in Refugee camps.
4. Cultural alienation.
5. Mixed reactions from Americans.
6. Future uncertainties.
7. Language difficulties.
8. Unavailability of jobs appropriate to previous training and experience.
9. Inadequate living arrangements.
10. Conflict with sponsors.
11. Breakdown in traditional family structure, generational conflict.<sup>2</sup>

Many Vietnamese Refugees women were raped repeatedly by Thai pirates when they tried to escape by boat to Thailand. They usually keep this a secret if they survived, because they are ashamed and some men may be reluctant to marry them if they know. Many Cambodians were victims of labor camps and torture, and may have seen friends and family members tortured and killed.

## BELIEFS ABOUT MENTAL HEALTH IN SOUTHEAST ASIA

Many countries, including those of Southeast Asia, do not separate health and mental health the way we do in the United States. As in many developing countries, symptoms we would consider to be emotional disorders or mental illness are explained by most Southeast Asians in one of two ways:

- 1) organically as a disorder of the nervous system or,
- 2) as a supernatural intervention: demons, bad spirits, or a curse.

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Traditional Chinese medicine, practiced by some in Vietnam, explains psychiatric problems as an imbalance of "hot" or "cold" elements.

Psychological factors are rarely seen as major determinant factors in one's life. All but the most extreme psychological problems are seen as givens of existence and the lot of every human being. The problem is seen as being caused by external events that have caused the suffering, so treatment is seen as relief of the external pressure rather than learning to deal more effectively with emotions. If external events cannot be changed then they should be accepted as part of life. The belief is that an outsider can only help with circumstances, and misery is for the individual to bear. Overt manifestations of disharmony and hostility are frowned on. If any emotion is expressed, it would be understated. The behavior of an individual is seen as a reflection on their family and it is important not to cause shame for one's family. All of these customs and beliefs result in a reluctance to talk about emotions to anyone but a family member or close friend.

## SYMPTOMS

There is little time to grieve over the loss of homeland, friends, family, and possessions when the refugee first arrives in a new country. They are busy with essential activities such as getting a job, housing, and language acquisition. There is a sense of relief and euphoria at first about finally arriving after a long wait in the camps or a dangerous escape. After the necessities are taken care of and initial adjustment is over, there is time to realize some of the differences in their culture and ours. At this point they may begin to feel homesick, helpless, and lonely. There may be anxiety and survivor guilt over those left behind.

Women may cry easily. Men are more likely to be absent-minded. There is a tendency to somatize. One study found 50% of medical problems in refugees treated in local clinics to have no organic cause.<sup>3</sup> Family problems may develop after a refugee family has been here for some time. Children learn English and American customs faster than their parents and intergenerational conflicts may develop. Problems between husband and wife may develop when the wife goes to work and becomes more assertive than she would have been at home.

A physician may be presented with a problem

of a physical nature because direct disclosure of worry, despair, etc. would be seen as indiscrete burdening others with one's problems. Common complaints are headache, insomnia, back pain, "weak heart", "weak nervous system", (inability to concentrate, poor memory, irritability), "weak kidney" (for male sexual dysfunction"). Even conditions with a clearly organic cause may be aggravated by the stressful circumstances the refugee has experienced.

## TREATMENT

In treating a person from another culture it is helpful to first be aware of one's own values and cultural orientation toward health care and psychotherapy. A lack of awareness could be a barrier to understanding what is going on with someone from a very different culture. It is important to keep in mind the kinds of stress a refugee patient is likely to be experiencing, even when the presenting problem is clearly of a somatic nature. Special areas in history taking important for a Southeast Asian refugee patient are: 1) what life was like in their home country and what problems and stresses they had before leaving; 2) the escape process: why they left, who came with them and who stayed behind, what threats or losses occurred on the way; 3) refugee camp problems and difficulties, diet in the camp; 4) attitudes about being in the United States; and 5) current worries and future outlooks.<sup>4</sup> Whenever possible a bilingual/bicultural professional should be used for the refugee with poor to fair English skills. In some areas of Arkansas interpreters are available through Arkansas Department of Health, U.S. Catholic Charities, or providers contracted by Arkansas Social Services. Many times an Interpreter/Caseworker would be a more appropriate referral for non-psychotic emotional problems than a mental health professional who doesn't understand their culture and who the refugee probably wouldn't feel comfortable talking to. They may be able to help explain to the physician what the refugee patient is experiencing and the significance of it in the context of their culture.

In another state with a large Hmong refugee population there was a sudden outbreak of what large numbers of Hmongs described as "bugs in the veins and under the skin". American physicians tried various medications as well as placebos. When nothing else seemed to help they brought in a Hmong practitioner from another state with



prestige in traditional Hmong practices as well as western medical experience. A community treatment weekend was held with both group and individual sessions. Many of the Hmong did have real intestinal parasites and were treated for these, but the presence of the Hmong practitioner was felt to be the key in reassurance to the community that the treatment was complete. It was felt that this also helped the Hmong accept the western treatment and would make it more likely that in the future they will trust a western physician.

This example is a somewhat extreme one, both in the measures taken and in the fact that the Hmong generally have the least understanding among the Southeast Asians of western medical practices. Nevertheless, it illustrates the way understanding a patient's cultural background can be helpful in their treatment.

For the refugee who speaks English well and is comfortable talking to an American physician or counsellor, the Peace Corps discusses ineffective and effective ways to deal with culture shock that could benefit the refugee:

Ineffective ways of dealing:

- a. Running from problem, denial, suppression—withdrawal and isolation from new culture, perhaps with own countrymen.
- b. "Go native"—become completely immersed in new culture and deny own.
- c. Attempt to "right" new culture—person wants culture to adapt to them rather than adapting to culture.

More effective:

First, clarify own beliefs, behavior, cultural identity. They learn about beliefs, behavior, etc. of new culture. The final step involves adapting to the new culture without forgetting old beliefs or values. Accept and integrate necessary aspects of the new culture that will help achieve goals there.<sup>5</sup>

There may be a lack of understanding of role differentiation of different professionals for the Southeast Asian refugee because there was less specialization in their country. If the physician has gained the trust of the refugee patient they may expect the physician to help with a variety of problems. A bilingual/bicultural interpreter can also be helpful in this situation to explain to the refugee about different professionals' roles and to refer to others for assistance when necessary.

REFERENCES

1. Gigante, Jim: Deputy Director, Office of Refugee Resettlement, Washington, D. C., in a presentation at 12/7/83 Regional O.R.R. Conference in Atlanta.
2. Study by the Mental Health Task Force for Indochinese Refugees, 1976.
3. Ray, Charles G.: Director of Refugee and Entrant Counseling Project, Pensacola, Florida. From a presentation at 12/7/83 Regional O.R.R. Conference in Atlanta.
4. Kinzie, J. David., M.D.: Professor of Psychiatry, Oregon Health Sciences University, from a presentation at 12/7/83 Regional O.R.R. Conference in Atlanta.
5. U.S. Peace Corps training files. Published in *Social Adaption of Refugees*, Center for Applied Linguistics.



**ANSWER—Electrocardiogram of the Month**

**DISCUSSION:** The patient is in sinus rhythm. The QRS duration is 0.12 seconds and a right bundle branch block pattern is present. The ST segments are markedly elevated from V<sub>1</sub> through V<sub>5</sub> and Q waves are present from V<sub>1</sub> through V<sub>3</sub>. These changes are compatible with acute infarction associated with acute right bundle branch block. His clinical picture suggests that he may be in a low output state. Strong consideration should be given to a very aggressive approach to the patient, including decisions concerning pulmonary artery catheterization and a temporary pacemaker. The feature editor wishes to thank Dr. Lynn Davis of the UAMS-LRVA Division of Cardiology for his assistance with this month's electrocardiogram.



## Recent Advances in Anticonvulsant Management of Childhood Seizure Disorders

Robert C. Woody, M.D.\*

Knowledgeable anticonvulsant management of childhood seizure disorders can dramatically reduce the severity and frequency of seizures and thereby improve the behavioral and psychosocial adaptation of the child.<sup>1</sup> These benefits must be achieved while minimizing both drug toxicities and medical expenses for the patient. Today improved medical management has resulted from recent advances in the pathophysiologic understanding of childhood seizures, technical advances in neurophysiologic diagnosis, scientifically-based reclassification of the disorders, recent additions of safe and effective anticonvulsants, and monitoring of anticonvulsant levels. These factors and the reemerging role of surgery in the management of refractory epilepsy have been reviewed at length recently.<sup>2-5</sup> This review will selectively address recent advances pertinent to the medical management of pediatric seizure disorders.

### The Reclassification of Seizure Disorders

Current classification of seizure disorders is derived from the clinical and neurophysiologic consensus achieved by the International League Against Epilepsy (ILAE). The goal of the ILAE standardization of terminology was to cluster accurately disorders in order to facilitate communication, in particular regarding to the development and assessment of new anticonvulsant agents. Of note, older terms such as "petit mal," "psychomotor seizures," etc., have been supplanted by "absence," "complex partial seizures," etc.

### Table 1, International League Against Epilepsy Standard Terminology of Seizure Disorders (1981)<sup>6</sup>

#### I. Partial (focal) seizures—behavioral or EEG

evidence of involvement of only one area or hemisphere of the brain. Seizures which do not alter consciousness are termed simple partial, those which do alter consciousness are termed complex partial.

- A. Simple partial seizures
    - 1. With motor signs
    - 2. With somatosensory or special sensory symptoms
    - 3. With autonomic symptoms or signs
    - 4. With psychic signs
  - B. Complex partial seizures (previously termed psychomotor or temporal lobe)
    - 1. Simple partial onset followed by impaired consciousness
    - 2. With impaired consciousness from the onset
  - C. Partial seizures evolving to generalize tonic/clonic seizures
- #### II. Generalized seizures (convulsive or nonconvulsive). Behavioral and EEG manifestations are generalized from the onset, that is, presenting over both hemispheres of the brain simultaneously.
- A. Absence (previously termed petit mal)
  - B. Atypical absence
  - C. Myoclonic seizures
  - D. Clonic, tonic, or tonic clonic seizures
  - E. Atonic seizures
  - F. Unclassified seizures (including subtle neonatal seizures, etc.)

### The Appearance of New Anticonvulsants

In 1851, bromide therapy was introduced for seizure management. Subsequently, phenobarbital (1912) and phenytoin (1938) appeared. Following this series of drugs either specifically developed as anticonvulsants or empirically found to be anticonvulsants became available including other hydantoins (mephentyoin, ethotoin, etc.)

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barbiturates, mephobarbital (metharbital, primidone, etc.), oxazolinediones (trimethadione, paramethadione) and others. Since the Kefauver Amendment (1962) which required the Food and Drug Administration (FDA) to license only those new drugs with proven safety and efficacy, only three new anticonvulsants have been licensed: carbamazepine (1974), clonazepam (1975) and valproic acid (1978).

### **Carbamazepine (Tegretol®-Geigy)**

Carbamazepine is a compound chemically related to the tricyclic antidepressants. It is particularly effective in partial seizure disorders, both simple and complex. Especially when other agents have failed or have had intolerable side effects, for example, hyperkinesia with barbiturates or hirsutism and significant gingival hyperplasia with phenytoin, carbamazepine is an excellent alternative.

Carbamazepine is supplied by Geigy as a 200 mg tablet and as a new 100 mg chewable tablet for children. A syrup can be prepared when tablets cannot be used, however, the medication is unstable in solution. No parenteral form is available. The medication is rapidly absorbed orally ( $t_{max}$  2-6 hrs) and has a half-life when chronically used of 6 to 8 hours. Doses should be divided two to three times per day. Initially carbamazepine is started at a low dosage (around 10 mg/kg/day) and increased slowly to prevent excessive drowsiness and ataxia. Tolerance clearly develops in two to three days to these toxicities if they should appear.

While the FDA has not approved carbamazepine for children under six years of age and require the manufacturer to list rather threatening potential toxicities. It is widely appreciated by clinicians that carbamazepine is exceptionally safe.<sup>7,8</sup> The fear of hepatic toxicity and aplastic anemia following usage of carbamazepine prompted recommendations for baseline and frequent serial determinations of hepatic and bone marrow function. The need and practicality of these laboratory studies has been seriously questioned. Hart and others challenged the association of aplastic anemia to carbamazepine and calculated that in 1981 the suggested laboratory monitoring would cost \$2,161 for the first year per patient. This expenditure seems excessive in view of the documented safety and widespread accept-

ance of carbamazepine.<sup>9,10</sup> In addition to this, maternal usage of carbamazepine appears to be free of teratogenicity in the fetus despite widespread usage for over 20 years. Carbamazepine is a preferred anticonvulsant for women of child-bearing years.<sup>4</sup> (Daly, personal communication)<sup>11</sup>

### **Clonazepam-Clonopin® Roche**

Clonazepam is a benzodiazepine useful in minor generalized seizures such as absence and minor motor seizures including atonic and myoclonic seizures. Increasingly it is used in the setting of infantile spasms. Clonazepam is supplied by Roche for oral usage as a 0.5, 1 and 2 mg tablet. It is easily absorbed orally. Its major toxicity is excessive sedation. The anticonvulsant effect of clonazepam is limited because tolerance often develops within several months causing more frequent seizures. The simultaneous usage of valproic acid in clonazepam may worsen minor motor seizures.<sup>4</sup>

### **Valproic Acid (Depakene®, Depakote®) Abbott**

Valproic acid is an 8-chained fatty acid, dipropylacetate, totally unrelated chemically to other anticonvulsants. Valproic acid is widely used in generalized seizure disorders including simple absence intractable absence,<sup>12</sup> myoclonic seizures, infantile spasms, and other generalized seizure types. Increasingly it has been successfully employed in both adults and children as the primary drug for tonic clonic seizures and has been as successful as phenytoin.<sup>13</sup> Of interest, valproic acid given as a retention enema has been successfully used for status epilepticus.<sup>14</sup>

Valproic acid is marketed as Depakene® in a 250 mg capsule and a 250 mg/5 cc syrup. Recently a newer buffered form, Depakote®, was marketed by Abbott in a 250 and 500 mg capsule reportedly having similar bioavailability and less gastrointestinal side effects. Valproic acid is absorbed rapidly orally with a peak concentration at 1 to 4 hours and a half-life with chronic usage varying between 6 and 8 hours. Valproic acid should be given two to three times per day following meals to minimize gastrointestinal complaints.

Valproic acid is a particular well-tolerated medication with a low incidence of sedation or other behavioral side effects. Gastrointestinal complaints may occur, but can usually be minimized by dosing after meals or using the newer form Depakote®. Other minor side effects include rashes and alopecia. More serious toxicities in-

cluding alarming reports of fatal hepatotoxicity are well known.<sup>15-16</sup> Of cases reported to date, all fatalities have occurred during the first six months of usage. Other significant toxicities include hyperammonemia either of an asymptomatic form<sup>17</sup> or associated with a Reyes-like syndrome,<sup>18</sup> asymptomatic elevation of liver function studies,<sup>19</sup> transient bone marrow depression, and prolongation of bleeding times. Because of these known toxicities, baseline and serial follow-up evaluations of hepatic and bone marrow function are necessary. The teratogenicity of valproic acid has been suggested by various groups. In particular, a strong association exists between maternal usage of valproic acid and the development of spinal dysraphic states.<sup>21</sup> For this reason valproic acid should not be used in pregnancy.

#### **The Establishment of Therapeutic Anticonvulsant Levels in Neonates**

Recent pharmacokinetic studies in both term and pre-term neonates have altered the dosages of phenobarbital and phenytoin given these patients. In the past and still recommended in some current therapeutic manuals, neonatal phenobarbital or phenytoin loading doses were suggested to be 5 to 10 mg/kg with maintenance doses of 5 to 8 mg/kg/day. It is now clear that metabolism and excretion of these anticonvulsants in the neonate are quite variable and unpredictable. Painter, et al,<sup>22</sup> reported that intravenous administration of 15 to 20 mg/kg of phenytoin and phenobarbital to neonates produced acceptable serum levels of  $14.5 \pm 3 \mu\text{g/ml}$  and  $20.7 \pm 4.4 \mu\text{g/ml}$ , respectively. Maintenance doses of both anticonvulsants required serial anticonvulsant level determinations in order to accurately follow patients. In particular, phenytoin was difficult to use in neonates. In part, due to the rapidly evolving metabolic and physiologic changes in the neonate, progressive changes in the half-life and concentration dependency on phenytoin occur resulting in decreasing levels of the drug despite constant doses given.<sup>23</sup> Therapeutic plasma levels could not be achieved by oral administration of the neonate in Painter's study. Fischer, et al,<sup>24</sup> reported significant variability in phenobarbital half-life in neonates. The mean being  $103.4 \text{ hrs} \pm 49.1 \text{ hrs}$ . Fischer recommended loading doses of 16 to 23 mg/kg. Overall, current recommendations for neonatal therapy could be summarized as initial loading doses of 15 to 20 mg/kg followed

by maintenance doses determined by serial anticonvulsant levels in order to maintain a level of 15 to 20  $\mu\text{g/ml}$  of either anticonvulsant in the neonate.

#### **Attention Given to Barbiturate Behavioral Toxicity in Children**

Increasingly with the introduction of newer anticonvulsants with fewer known behavioral side effects, barbiturate-induced hyperkinesia, aggressiveness, learning disabilities, sleep disturbances, and depression have become apparent. These behavioral toxicities frequently occur perhaps as often as in 42% of patients given barbiturates.<sup>25</sup> Parents and teachers report significant and intolerable changes in personality and attention span in these children. Even rather subtle personality changes in children on barbiturates warrant strong consideration of discontinuing therapy and substituting other medications, in particular, carbamazepine or valproic acid. The controversy surrounding barbiturate treatment of febrile seizure patients is heightened when the patient experiences behavioral toxicity. Hyperkinesia, shortened attention span and the potential for longer term cognitive impairment, in general, are unacceptable costs to pay to reduce the frequency of benign febrile seizures.<sup>25</sup>

#### **The Widespread Use of Serum Anticonvulsant Levels**

The recent widespread availability of anticonvulsant levels, both in academic and community settings, have permitted clinicians to tailor anticonvulsant therapy to each patient. In addition to this, anticonvulsant level determinations have illustrated the complexity of interactions between anticonvulsants, for example, the pronounced effect of valproic acid on phenobarbital metabolism leading to barbiturate intoxication. Especially with the widespread usage of the EMIT system requiring only 50  $\mu\text{l}$  of serum for determinations even pre-term infants can be monitored.

Several points should be clarified, however, regarding anticonvulsant levels. First, no "normal" level exists. Ranges of "therapeutic" levels are reported by laboratories and even these reported levels are statistical representations: if the patient has poor seizure control despite a "therapeutic" anticonvulsant level then it is not "therapeutic" in him. Second, reported anticonvulsant levels generally do not distinguish "free" from protein-bound anticonvulsant fractions. In



all cases, it is only the "free" fraction which has anticonvulsant activity. Those factors which interfere with protein binding may also alter seizure control without changing reported serum anticonvulsant levels. For example, hypoalbuminemia will reduce protein binding thereby increasing the "free" fraction of the anticonvulsant and possibly leading to drug toxicity despite anticonvulsant levels in the nontoxic range. Likewise, drugs competing for protein binding may also have a similar effect, for example, aspirin used simultaneously in valproic acid therapy.<sup>26</sup> Finally, anticonvulsant level determinations are not inexpensive and should be used for specific indications.<sup>27</sup> In general, following achievement of a steady state level (reached in 4 to 5 half-lives of the medication under consideration) one anticonvulsant level is often warranted to determine the manner in which the patient is handling the drug, and perhaps to check on medical compliance in the patient. Following this, anticonvulsant levels helpful especially in the patients who have not achieved the expected benefit from a standard prescribed dosage or range of the medication where compliance is felt to be present. In the clearly drug toxic patient often a serum level allows formulation of a plan to titrate the medication in order to prevent the recurrence of seizures.

### Conclusion

Accurate seizure classification, specific prescription of anticonvulsant medications to the individual seizure patient and seizure type, appreciation of the drugs' benefits and risks, and careful clinical and laboratory monitoring of anticonvulsant therapy optimizes the opportunity for the physician achieving and maintaining seizure control in the pediatric patient.

### REFERENCES

1. Giordani, B., et al: Improvement in neuropsychological performance in patients with refractory seizures after extensive diagnostic and therapeutic intervention. *Neurology* 33:489-493, 1983.
2. Dodson, W. E., et al: Management of seizure disorders: Selected aspects. *J. Pediatr.* 89:527-540, 695-703, 1976.
3. Delgado-Escueta, A. V., et al: The treatable epilepsies. *N. Engl. J. Med.* 368:1508-1514, 1571-1584, 1983.
4. Penry, J. K., et al: The use of antiepileptic drugs. *Ann. Int. Med.* 90:207-218, 1979.
5. Engel, J.: Recent developments in the diagnosis and therapy of epilepsy. *Ann. Int. Med.* 97:584-598, 1982.
6. International League Against Epilepsy: *Epilepsy* 22:489, 1981.
7. Gamstorp, I.: Treatment with carbamazepine: Children, in Penry, J. K., and Daly, D. D. (eds.): *Adv. in Neurology*. 1975, pp. 237-248.
8. Hart, A. G., et al: Carbamazepine and hematological monitoring. *Ann. Neurol.* 11:309-312, 1981.
9. Livingstone, S., et al: No proven relationship of carbamazepine therapy to blood dyscrasias. *Neurology* 28:101, 1978.
10. Troupin, A. S., et al: Reply from the authors. *Neurology* 28:102, 1978.
11. Daly, D. D.: Personal communication.
12. Erenburg, G., et al: Valproic acid in the treatment of intractable absence seizures in children. *Am. J. Dis. Child.* 136:526-529, 1982.
13. Wilder, B. J., et al: Comparison of valproic acid and phenytoin in newly diagnosed tonic-clonic seizures. *Neurology* 30:1113-1114, 1980.
14. Thorpy, D. J.: Rectal valproate syrup and status epilepticus. *Neurology* 30:1113-1114, 1980.
15. Suchy, F. J., et al: Acute hepatic failure associated with the use of sodium valproate. *New. Engl. J. Med.* 300:962-966, 1979.
16. Sussman, N. M.: Hepatotoxicity of valproic acid. *Neurology* 29:601-605, 1979.
17. Marescaux, C., et al: Sodium valproate: An inducer of hyperammonemia. Study in epileptics and normal subjects. *J. Neurological Science* 58:195-209, 1983.
18. Gerber, N., et al: Reyes-like syndrome associated with valproic acid therapy. *J. Pediatr.* 95:142-144, 1979.
19. Dodson, W. E., et al: Pharmacology of valproic acid in children with severe epilepsy: Clearance and hepatotoxicity. *Neurology* 31:1047-1050, 1981.
20. Blaw, M. E., et al: Valproic acid embryopathy. *Neurology* 33:255, 1983.
21. CDC Morbidity and Mortality Weekly Report 31 (42): October 29, 1983.
22. Painter, M. J.: Phenobarbital and diphenylhydantoin levels in neonatal seizures. *J. Pediatr.* 92:315-319, 1978.
23. Bourgeois, B. D., et al: Phenytoin elimination in the newborn. *Neurology* 33:173-178, 1983.
24. Fischer, J. H., et al: Phenobarbital maintenance dose requirements on treating neonatal seizures. *Neurology* 31:1042-1044, 1981.
25. Wolf, S., et al: Behavior disturbance, phenobarbital, and seizures. *Pediatrics* 61:728-731, 1978.
26. Farrell, K., et al: The effect of acetylsalicylic acid on serum-free valproate concentration and valproate clearance in children. *J. Pediatr.* 101:142-144, 1982.
27. Richens, A., et al: When should plasma drug levels be monitored? *Drug* 17:488-500, 1979.





## EDITORIAL

# Circadian Rhythm

Alfred Kahn, Jr., M.D.

Biological rhythms have been of intense interest to physicians. Their presence has been manifest in many ways: by animals hibernating only once a year and collecting fat prior to that time; from animals having estrous twice per year; the menstrual cycle of women is approximately one month; the sleeping cycle tends to be once per day. Moore-Ede, Czeisler, and Richardson have written a fascinating article entitled "Circadian Timekeeping in Health and Disease" (*The New England Journal of Medicine*, Vol. 309, page 469, August 25, 1983). Circadian rhythm refers to a rhythm which lasts approximately one day. As they point out, Circadian rhythms are important in the study of human bodily functions as there are daily variations in numerous things in the human body including temperature, chemical levels, and so on. They go on to state that it takes one day for this world to go through one total revolution — day and night — and centuries ago human behavior more or less followed the cycle of light and dark; in more recent times this has been disrupted by modern lighting. One extremely important disabling occurrence which has to do with Circadian rhythm, and to which we are all exposed, is air travel across time-zones.

A good deal of effort has been made to identify the systems which vary on a Circadian basis. Some of them include sleep, body temperature, cortisone concentration, growth hormone, urinary secretion of potassium, and so on. They relate that the rhythm occurs in the shape of waves in which a wave may be a single pulse or a series of pulses. The rhythms are said to vary according to whether it is day or night; they quote a French astronomer who put a heliotropic-type plant in a closet and was astounded to find the plant continued its leaf motion on a Circadian basis despite total darkness. Moore-Ede, et. al. made a point of the fact that

Circadian rhythm is not always 24 hours because the environmental cycle from winter to summer may change—and thus necessitate a change in the cycle. Circadian rhythms are said to change, among other things, with temperature as well as light intensity.

As is well known humans have a Circadian rhythm and this was said to have been noted first by putting human subjects in cellars and caves; apparently humans have a Circadian rhythm of roughly 25 hours, but there was a tendency to drift from this cycle.

The authors describe an interesting phenomenon which has been discovered concerning human Circadian rhythm, namely, that there seems to be two different pacemakers; there is a body temperature so-to-speak pacemaker and a rest/activity type of pacemaker. They do not have quite the same cycle. The body temperature pacemaker is said to have a 24.5 hour rhythm cycle and the rest/activity cycle is about 33 hours. One would presume from the authors description that the body receives messages from both pacemakers and the Circadian rhythm is a vector of the two sets of messages. It has been observed that some bodily functions follow the X-pacemaker (body temperature) whereas other bodily functions follow the Y-pacemaker (rest/activity).

The pacemaker in animals was hard for the original investigators to identify, according to the authors. Using various neurological techniques, it was found that the suprachiasmatic nuclei coordinate the Circadian rhythm in animals. The suprachiasmatic nuclei in animals is said to send out the same number of impulses regardless of light condition or whether or not the environment is in a constant state; this is a fascinating, remarkable timepiece. In the higher forms of animals, such as monkeys, the so-called Y-pacemaker (rest/



activity) seems to be in the suprachiasmatic nuclei but the so-called X-pacemaker is not located and its exact whereabouts is not known.

Moore-Ede and his co-authors report that the adjustment of the Circadian rhythm from exactly 24 hours to a little more or a little less is under the control of various things in the environment, but apparently the most important is the daily ratio of light to dark. Other factors have been reported. They do not seem to play as an important role. This, in turn, emphasizes the importance of the optic passageways to the suprachiasmatic nuclei and the rest of the hypothalamus. Blinding animals in such a way to reveal the suprachiasmatic nuclei from getting information changes the ability of the animal to adapt to its Circadian rhythm. The Circadian rhythm has such a delicate balance that it is said that timing of a certain stimulus is capable of making a difference in the rhythm—such as subjecting the animal to a light pulse early during the night or later during the night. This has been studied by a concept known as the Phase-Response Curve—in other words shift of the Circadian rhythm can be accomplished in the manner described above. From the authors description there appear to be limits of the maximal phase advances of a Circadian rhythm and the maximal phase retardation. This is not alone dependent on the time of the stimulation given an animal or human being but also it is dependent on the intensity of the stimulation. Moore-Ede says that humans can advance their day by one-half hour but they can delay their day by 2.5 hours. They go on to say that this may explain “why adaptation for most people is more rapid after westbound travel (requiring a phase delay) than after eastbound travel (requiring a phase advance)”. They go on to say “it takes several days to re-synchronize the Circadian rhythm if the environmental phase shift is larger than the maximum achievable according to the phase-response curve”. The malaise that occurs during this time period is “jet lag”.

The authors make the interesting statement that “almost every physiologic variable that is used as a diagnostic indicator has been shown to exhibit a Circadian rhythm”. This implies that physiologic statements are not so-to-speak chiseled in stone—and some variation from the norm might be the result of a Circadian rhythm rather than disease. The authors suggest that perhaps there should be Circadian normograms rather than a

set figure for biologic functions. They go on to point out that hospitals tend to upset the Circadian rhythms because of constancy of environmental factors as noises, lights, and activity—and it would be wise for physicians to keep that in mind.

Circadian rhythms are said to play a role in susceptibility to disease. It is reported in this article that at the time of death for surgical and non-surgical patients tend to follow a Circadian rhythm. Furthermore, the ability of the body to deal with poisonous chemical substances and toxins fluctuates with Circadian rhythms. Moore-Ede states that “certain disease states may be associated with abnormal rhythms of susceptibility to otherwise benign insults”; and he cites the fact that patients with bronchial asthma have an enhanced tendency to bronchial constriction and that this tends to occur around 6:00 a.m. He further says that respiratory arrests tend to be in this same time vicinity.

Drugs are said to be more effective at certain times of the day. This may relate to absorption metabolism of the drug and disposition of the drug. There are many variables to which the drug is subjected that may change its effectiveness, as can be easily seen from the above statement—and the drug might not be absorbed and the body would not have an adequate dosage. The body might not dispose of the drug and a toxic level might be established. Tissues vary from time to time in their susceptibility to drugs and other substances, possibly due to the condition of their surface receptors or the biochemicals of the cell membrane. It is not known whether the intracellular enzymes have an important Circadian rhythm. One really frightening idea introduced by Moore-Ede is that drug toxicity and drug effectiveness may be on different Circadian rhythms.

Of considerable importance in the practice of medicine are disturbances of sleep, which, of course, are a function of Circadian rhythm. This article suggests that disturbances of sleep/wake patterns may be the first evidence of a more profound disturbance of Circadian rhythm with other hidden or latent disturbances either present or to follow. Delayed-sleep-type insomnia is said to affect at least 10% of the people who have disturbances of sleep/wake cycles. The authors discuss the possibility of changing the patient's bedtime.

Depressive illnesses seem to follow a Circadian rhythm. They are apparently worse in the early morning. It is suggested by Moore-Ede that in depressive illnesses the Circadian rhythm is advanced if body temperature and some of the neuro-endocrine rhythms seem to be set up to earlier hours of the day. Manic states are said to have a delay in the Circadian rhythms—the Circadian rhythms occur at a later time of the day.

One fascinating portion of the authors discussion refers to people who are unable to adjust their Circadian rhythm to the 24 hour day/night cycle. Although some of the people are said to be blind, most of them have good vision and this disorder is blamed on the hypothalamus. In the discussion of the blind persons it is said that although some blind individuals do not have normal Circadian rhythm at least many do (No percentage is given) and this brings up the question as to whether or not there are good cues which tell blind individuals the relative time of day in some subtle as yet undetermined means.

Disorders of rhythm amplitudes are reported in this interesting review and as an example, the Eskimos living around the Arctic Circle are cited because some have been demonstrated to have abnormally low rhythm amplitudes; this is at-

tributed to the long-day and long-night cycles in the far North; sleep disturbances are said to be common in this situation.

Moore-Ede and his co-authors report the public health aspects of Circadian rhythm and in so doing mention the impact of the 24 hour work cycle of some industrial plants. People who do shift work are subjected to considerable stress because of alterations of their Circadian rhythm. Eighty percent of the people doing shift work are said to have problems with insomnia. It would seem particularly difficult, with regard to Circadian rhythm, to have ones shift constantly changing from day to evening to night. Certain types of work seem predisposed to rhythm abnormalities including fliers and policemen who might have a change in work schedules, naval personnel who work by watches, etc.

Lastly, Moore-Ede et. al. state that the health profession is particularly vulnerable to the disturbances of Circadian rhythms because of frequent interruption of their sleep/wake patterns by their duties to their patients.

This brief report is highly recommended to all physicians as Circadian rhythms play a role in every aspect of health and disease.



## *"From Other Years"\**

*Journal of the Arkansas Medical Society*

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### **The Regular Physicians of Arkansas.**

For some time the secretary of the society has been engaged in the endeavor to obtain the name and address of every regular physician, graduate in good standing, in this State.

So far returns have been received from sixty-five of the seventy-five counties in Arkansas.

The aggregate foots up 741. The returns, according to counties, are as follows: Arkansas, 9; Ashley, 19; Baxter, 5; Benton, 19; Boone, 14; Bradley, 11; Calhoun, 6; Carroll, 14; Chicot, 6; Clark, 12; Clay, 3; Cleburne, 3; Cleveland, 11; Columbia, 8; Conway, 8; Craighead, 12; Crawford, 9; Cross, 8; Dallas, 6; Desha, 5; Drew, 12; Faulkner, 14; Franklin, 15; Fulton, 3; Garland, 21; Grant, 3; Greene, 13; Hempstead, 14; Howard,

9; Independence, 23; Izard, 5; Jackson, 11; Jefferson, 28; Johnson, 13; Lafayette, 5; Lawrence, 12; Lee, 15; Lincoln, 4; Logan, 20; Lonoke, 14; Madison, 8; Miller, 10; Mississippi, 11; Monroe, 14; Nevada, 11; Newton, 4; Ouachita, 10; Phillips, 10; Pike, 2; Polk, 2; Pope, 13; Prairie, 9; Pulaski, 60; Randolph, 11; Saline, 13; Sebastian, 24; Sevier, 10; St. Francis, 2; Stone, 2; Union, 11; Van Buren, 2; Washington, 19; White, 12; Woodruff, 11; Yell, 17. This gives an average of 11⅓ graduates in each county. The counties not heard from so far are Crittenden, Hot Spring, Marion, Montgomery, Perry, Poinsett, Scott, Searcy and Sharp. The only counties about which there is doubt as to their containing a graduate are Montgomery and Searcy. Communications addressed to correspondents in Marion, Scott and Sharp counties have not elicited any reply, perhaps because the regular



physicians addressed in these counties have removed from the county or changed their post office. It is possible some of the persons addressed have neglected to reply, though several letters have been addressed to each of them.

*The Medical and Surgical Register of the United States* for 1893, gives as the total number of physicians in our State 1,891, while *The Arkansas State Gazetteer and Business Directory*, 1892-93, gives the names and addresses of 1,608.

Making due allowances for the slight inaccuracies that exist in all of these computations, it is evident that the regular physicians in Arkansas are in a minority, the other classes composing about 1,800 or 2,000 of her practitioners, while the graduates unquestionably number less than 1,000.

There are not ten counties in the entire State that have less than the requisite number of regular physicians to organize a medical society. Suppose there was a society in each of the sixty-five counties, what influence could such a combination exert, not only in medical matters, but in everything that pertains to the destiny of our State. The exhibitions of disregard for the wishes or advice of the medical profession in our State are growing more and more manifest each year. This is because the profession, as a body, is not keeping up the organization it ought to maintain.

This is a good year to turn over a new leaf. Ponder over the figures contained in this short article, and compare the growth of the medical profession with the growth of our State. Like most of Arkansas' great resources, the medical profession is undeveloped.

The twentieth meeting of the Arkansas Medical Society, the only representative of medical organization of our State, will meet at Little Rock May 1. This will afford every regular physician in Arkansas an opportunity to enroll his name in the cause of progressive medical organization.

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*Journal of the Arkansas Medical Society*

Vol. 5 No. 5 Feb., 1895 p. 216

#### **The Little Rock Medical Society.**

Under the presidency of Dr. C. E. Nash, ably assisted by Dr. Vinsonhaler, the secretary, the society is taking on new life. The attendance has

increased and the papers are more practical and interesting than usual. The next meeting will be devoted to practical demonstrations of modern urinalysis and the second meeting in March will be assigned to cerebral localization in which a properly prepared brain will be used. Work of this kind cannot fail to be productive of practical results.

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*Journal of the Arkansas Medical Society*

Vol. 5 No. 6 Mar., 1895 p. 255-6

#### **Gunshot Wound of the Brain.**

By M. S. Dibrell, M.D., Van Buren, Ark.

On January 7th of this year, I was called to see a negro child, aged 2½ years, who had been accidentally shot by another child playing with a revolver, 32 calibre. On examination, I found the wound of entrance, which was small, one-quarter inch to the left of and on level with lower border of left alae nasi; on further examination I found the ball lodged under the soft parts of the left parietal eminence. Dr. O. M. Bourland, the family's physician, then arrived, and at his request I removed the ball with the usual antiseptic precautions. After removal of the missile nearly a teaspoonful of brain tissue came through the incision. I inserted my index finger into the opening, and just three-quarters of an inch anterior and just internal to the parietal eminence was found a hole in the skull that the finger could have been passed through easily. The wound was packed with iodoform gauze and the usual dressing applied. This I regard as quite a remarkable case, taking into consideration the course of the ball, which evidently passed through the entire left hemisphere of the brain. The procedure of removing the ball was of course a very simple one.

The patient did not experience any disagreeable effects, other than pain, which was easily relieved with small doses of the deod. tr. of opium. There was little or no shock, no paralysis; the child cried for food the following morning; it had no rise of temperature or accelerated pulse.

At this writing, five months after the receipt of the injury, the child is well and has never had the slightest trouble.

From the University of Arkansas for Medical Sciences Library,  
History of Medicine/Archives.

## MEDICINE IN THE NEWS



### THE MONTH IN WASHINGTON

#### Physician Fee Freeze Delayed By Congress

Physicians gained a temporary respite as legislators, bent on adjournment, laid aside a debate on physician fee freezes and ended the first session of the 98th Congress November 18 with the freeze and other budget items still hanging.

Fee freezes, in different forms, were attached to heavily-lobbied budget reconciliation bills neither the House nor Senate chose to grapple with in the flurry of year-end legislating.

The reprieve is likely to be short-lived, however, since reconciliation, at least theoretically, remains high on the Congressional agenda when members reconvene January 23.

In addition, some influential members in both parties want to enact deficit reduction packages that go far beyond the reconciliation measures and debate could intensify with the submission of the President's fiscal 1985 budget early in the new session. In this atmosphere, efforts to curb Medicare payments to physicians are certain to continue, and the AMA and medical specialties, having staved off a freeze in the confusing days before adjournment, are now preparing for a new battle.

In the House, debate will once again center on a Ways and Means proposal attached to the committee's budget reconciliation plan. Estimated to save \$920 million over three years, the proposal would roll back and freeze limits on prevailing fees for inpatient services; mandate assignment of inpatient claims; and remove hospital staff privileges of physicians who refuse assignment.

In the Senate, physician fee debates will revolve around two different proposals — a reconciliation measure that could go to the floor at any time and a deficit reduction plan being drafted in the Senate Finance Committee.

The reconciliation measure would freeze prevailing fee limits until July 1, 1984 and would apply to outpatient as well as inpatient care. The more extensive deficit trimming proposal would continue the temporary freeze for another two years for physicians that don't accept assignment

of all claims. When added to the \$1.6 billion savings from the temporary freeze, the new plan would save \$5.4 billion over the next four years.

The four year, \$150 billion deficit reduction plan is the brain child of Finance Chairman Sen. Robert Dole (R-KS). Dole pushed hard for its enactment in the last days of the session but was able in the end only to win agreement to have the staff draft a bill incorporating the major elements of his proposal as modified to suit other members. The carefully-crafted tentative compromise could unravel when talks resume in February because Sen. William Roth is threatening to offer an alternative more acceptable to the Reagan administration.

Other provisions in the tentative committee agreement include a fee schedule for clinical labs, restructuring of Medicare cost-sharing requirements, lowering the rate of increase that will be permitted in Medicare payments to hospitals, increasing Medicare Part B premiums and extending current reductions in federal payments to Medicare.

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#### Federal Panel Says Abandon UCR

A federal advisory panel assigned to look at Medicare's financial problems is recommending that Medicare abandon physician payment methods in effect since the program's inception and move to regionally-adjusted fee schedules.

Since the panel is also suggesting that physicians be required to take all Medicare claims on assignment or no claims on assignment, the physician would either have to accept the Medicare fee schedule as payment in full for all his patients or he would have to bill all patients directly.

Officially known as the Social Security Advisory Council, the panel chaired by former Indiana Gov. Otis Bowen, M.D., ordinarily would have looked at the entire Social Security program. Instead, this year it was instructed to concentrate on Medicare and the impending bankruptcy of the program's hospital trust fund. Its final recommendations adopted in early November are intended to generate about \$300 billion to keep the



hospital fund solvent through 1995.

Several other recommendations, such as the physician fee schedule and changes in the claims assignment process, would not produce savings for the hospital fund but are intended to reduce costs of the supplemental medical insurance (SMI) fund.

A major portion of the new revenues for the hospital fund would come from increases in federal alcohol and tobacco taxes. Other major fund raisers are recommendations to cap the amount of employer-paid health insurance premiums that are nontaxable to employees; to add a Medicare hospital surcharge to the SMI (Part B) premium; to change the way medical education is financed; and to raise the initial age of eligibility for Medicare benefits. The council rejected proposals to means test benefits or increase the payroll taxes that now fund the hospital (Part A) portion of Medicare. It also turned down a plan to use general revenues to pay for hospital care for Medicare beneficiaries.

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#### **PROPAC Commissioners Chosen**

A Brandeis University dean has been chosen to head a powerful new commission expected to play a major role in updating and modifying Medicare's diagnosis-related groups (DRG) pricing scheme.

Stuart Altman, Ph.D., dean of the Florence Heller School at Brandeis and formerly with the Department of Health and Human Services, will serve a three-year term as chairman of the new Prospective Payment Assessment Commission (PROPAC). Among the 14 other new commission members are six physicians and four hospital officials. Many of the members have previous experience in federal or state government or advisory panels.

The commission was mandated in the law that set up the DRG system. Beginning in 1986, it is to advise HHS on needed modifications or additions in the DRGs to reflect technology and practice changes and to recommend an appropriate annual increase in the DRGs.

Among the new commission members are: John C. Nelson, M.D., a practicing Salt Lake City obstetrician/gynecologist nominated by the American College of Obstetricians and Gynecologists, and Barbara J. McNeil, M.D., a Harvard professor of Clinical Epidemiology and Radiology at

Harvard nominated by the Society of Nuclear Medicine. Other physicians on the commission are James J. Mongan, M.D., Executive Director of the Truman Medical Center in Kansas City, MO; Yvette Francis, M.D., Ph.D., Director of Medical Services at the Sickle Cell Center for Research in Brooklyn, NY; Ernest Saward, M.D., professor of social medicine at the University of Rochester Medical Center; and Steven A. Schroder, M.D., professor of medicine at the University of California.

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#### **Hospice Benefits Delayed**

Implementation of Medicare's new hospice benefit has been delayed by renewed efforts on the part of the White House Office of Management and Budget to cut payment rates proposed earlier this fall. News reports say that hospice home care rates would fall from about \$53 to \$42 a day and inpatient rates from \$271 to \$255 a day under the OMB proposal.

The hospice benefit was to have taken effect November 1, and six hospices have received provisional approval to participate in the program. About 400 of the nation's 1,200 hospices are interested in participating, and the Health Care Financing Administration (HCFA) has surveyed 45 of these and scheduled surveys on another 58.

OMB's latest argument for reducing the rates is supported by some HCFA staff and is based on the premise that the latest data from a federally-funded hospice demonstration program does not justify the higher rates.

National Hospice Organization officials responded that the demonstration hospices were not providing as high a level of care as is permitted under the new hospice benefit, so their costs are not reflective of costs under the new program.

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#### **HCFA Sets Physician DRG Study**

Health Care Financing Administration head Carolyn Davis has put together a task force of HCFA staffers to collect the Medicare Part B data that will be needed for the agency's study on the "feasibility and advisability" of including physicians in Medicare's diagnosis-related groups pricing system. The report is due in 1985. The task force is headed by Don Young, M.D., Deputy Director of HCFA's Bureau of Eligibility. HCFA is developing new instructions to Medicare car-

riers regarding the types of data and format it wants to see. The data requested is from 1983 and HCFA wants to have it by July of 1984.

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#### **Other Doctor Studies Also Funded**

The Health Care Financing Administration will provide up to \$3 million in grants in 1984 for research in several priority areas, including prospective payment and physician reimbursement. Announced in the November 9 Federal Register, grants ranging from \$35,000 to \$275,000 per project will be awarded for studies of: prospective payment methods for physician services; negotiated fee schedules, competitive bidding and per case payments; significant reimbursement imbalances among different physician services; ways to reduce geographic and specialty differences in reimbursement for comparable services; ways of encouraging preventive care; and changes in the claim assignment process.

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#### **Community Health Center Gets \$11 Million**

Health and Human Services announced awards of \$11.1 million in 62 grants to establish new community health centers or enable existing centers to open satellite clinics. The grantees are located in 32 states and territories, selected from among 191 applicants using criteria such as the medical needs of the population in the service area and the effects of unemployment on access to health care.

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#### **"Baby Doe" Vote Ducked By Congress**

A coalition of medical and hospital groups sent letters to every member of Congress, urging them to delay a vote on controversial "Baby Doe" legislation. Indeed the vote was eventually postponed until at least next year as the move died with adjournment. The legislation would have permitted government intervention in the care and treatment of infants at risk with life-threatening congenital impairments. Although there have been efforts to reconcile different "Baby Doe" viewpoints, no satisfactory compromise has yet been reached. The group said Congress should hold hearings on the issue.

"Because of controversial requirements contained in this legislation, the undersigned groups are opposed to consideration of the bill at this time," it stated. The letter was signed by representatives of nine health care groups: the Ameri-

can Medical Association, the American Academy of Pediatrics, the American Association of Medical Colleges, the American Hospital Association, the American Psychiatric Association, the Federation of American Hospitals, the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, and the National Association of Children's Hospitals and Related Institutions.

The bill — HR 1904, sponsored by Rep. Austin J. Murphy (D-PA) — cleared a subcommittee last March and the full Education and Labor Committee last May. Debate on the floor of the House once was scheduled for the week of Nov. 7. Now, debate may take place the next session of Congress, which starts Jan. 23.

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#### **Congress Tightens Fetal Research**

The long debate over who should control the National Institutes of Health pursestrings was eclipsed in the closing days of Congress by a more controversial and emotional issue: fetal research.

The biomedical community watched with alarm as Rep. William Dannemeyer (R-CA), "speaking for society's unwanted members," won the majority of House votes with an amendment to the NIH bill which restricted virtually all research on fetuses intended for abortion.

The tables suddenly turned, however, when Rep. Rodney Chandler (R-WA) offered a surprise alternative: an amendment that permitted research with appropriate safeguards. Fetal research is acceptable only if it poses minimal risk to the fetus, and if scientific knowledge can be gained in no other way, the amendment said. Moreover, research would be permitted only if approved by six layers of institutional and governmental peer review, involving between 30 and 40 individuals, he added.

This more moderate amendment — along with the entire NIH bill — won the voiced support of the House, plus resounding applause. Rep. Dannemeyer, reluctant to give up, promptly asked for a count of votes, then objected to the vote, saying that a quorum was not present. Overruled, he then requested a separate vote on Chandler's amendment. Attention spans were short and legislators were eager to go home; this, too, was denied.

The medical community had two reasons to be relieved by the House vote. The moderate fetal



research amendment keeps research opportunities open while making sure that safeguards are observed. The NIH bill keeps authority for NIH spending in the hands of scientists, not legislators.

The NIH bill, which reauthorizes National Cancer Institute, the National Heart, Lung and Blood Institute, and other expiring NIH programs, is a compromise between two vastly different proposals. Reps. Henry Waxman (D-CA) and John Dingell (D-MI) favored high funding levels and a line-item list of research projects specified by Congress. Reps. Richard Shelby (D-AL), James Broyhill (R-NC), and Edward Madigan (R-IL) pushed for lower funding levels and retaining the current NIH-based system of authorizing grants. The adopted compromise contains the high funding levels set in Waxman's proposal but lets NIH hand out the money.

Rep. Shelby called the NIH bill "a unified workable package that takes a consensus approach to the management of NIH." Rep. Madigan applauded the "convergence of widely divergent concerns."

A similar sense of commitment seems lacking in the Senate; these legislators have postponed consideration of their NIH bill until the next session. The legislation is believed to be accepted, although not embraced by the Reagan Administration.

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### **Methaqualone Banned**

The nation may follow the example of eight states in banning the controversial sedative-hypnotic drug Quaalude (methaqualone). The House of Representatives, believing the drug's danger outweighs its benefit, has voted a nationwide ban of the product. Simultaneously, manufacturer Lemmon Co. announced that it will cease production.

The states of Georgia, Illinois, Florida, Texas, Connecticut, Mississippi, New Jersey, and North Carolina already have pulled it off drugstore shelves. Prescriptions for the once-popular drug plummeted accordingly: in 1973, over 4 million prescriptions were written; by 1982, only 300,000 prescriptions were written, a reduction of more than 90%.

Distribution of existing medication in stock will stop on January 31, 1984, to give physicians and patients time to switch to other medications. The decision to discontinue the drug was due to

"the increasingly adverse legislative climate that surrounds the product and the resulting negative publicity about our excellent company" said a spokesman for the drug's sole manufacturer, Lemmon Co. of Sellersville, PA.

Congress continued its push for restrictive legislation; without controls, another manufacturer might bring the drug back on the market said Rep. Henry Waxman (D-CA). The adopted bill shifts the legal status of the sedative-hypnotic from Schedule II to Schedule I, a category shared by heroin, LSD, marijuana, and other drugs for which there is no accepted medical usage. The bill was pushed by city and county physicians, who struggled to close down so-called "stress clinics" — where a person could walk off the street with a complaint of sleeplessness and get a prescription for methaqualone — as they proliferated around the country. The Food and Drug Administration and American Medical Association opposed any change in status, saying that the drug still has accepted medical usage.

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### **NIH Researchers Downplay British Pill Data**

National Institutes of Health researchers are calling a new study that links oral contraceptives to cervical neoplasia "potentially important but only tentative in nature," saying that more rigorous research is needed before drawing final conclusions.

The study, published in the Oct. 22 *Lancet*, found that three forms of cervical neoplasia — invasive cancer, carcinoma-in-situ, and dysplasia — occurred more frequently in women taking the pill than in women using IUDs for birth control.

The incidence of neoplasia for women on the pills ranged from 0.9 per 1000 women-years in those with up to 2 years pill use to 2.2 per 1000 women-years in those with more than 8 years pill use. Women using an IUD showed no similar trend: in this group, rate of neoplasias fluctuated around 1 per 1000 women-years, reported Martin P. Vessey, M.D., and colleagues at Radcliffe Infirmary, Oxford.

Based on their findings, the researchers advise that all women using the pill for more than four years seek regular cervical cytological exams. This recommendation has been endorsed by the Committee on Safety and Medicine, Britain's version of the Food and Drug Administration.

Sceptical NIH researchers point out that cer-

vical cancer can be related to a large number of influencing factors, such as sexual behavior, cigarette smoking, and folic acid nutritional status.

NIH researchers also cautioned about a new British study linking oral contraceptives to breast cancer in young women reported in the same issue of *Lancet*. Recent American studies discounted the risk and in fact praised the protective effects of the pill.

At the invitation of the National Institutes of Health, British authors of the study arrived in Washington, D.C., in November, where they met behind closed doors with American researchers to exchange data, criticism and conclusions. Information obtained at the meeting will be used to form specific policy guidelines for physicians within two or three months.

The British study had found increased rates of breast cancer in young women who had taken high-progestogen forms of the pill before age 25. Breast cancer in young women, although a relatively uncommon form of the disease, tends to progress faster and be less responsive to treatment than breast cancer in older women.

Most frequently implicated were the high-progestogen combination brands of the pill: Ovulen, Demulen, Ovral, Enovid 10, Norinyl 10, Ortho-Novum 10, Lo/Ovral, Enovid 5, and Norelstrin 2-5. Risk appeared to increase with extended use; whereas relative risk was 1.0 for non-users, it climbed to 4.1 for women using the pills more than 6 years.

An editorial in the same issue of *Lancet* cautions, "The growing evidence that the pill has residual and long-term effects on health needs to be taken seriously and discussed rationally."

British researchers contend that U.S. studies have not detected the cancer link because they focused on older patients who were unlikely to have used the pill for a long time at a young age.

But in the United States, researchers are more skeptical. This one study, while of interest, should not scare women away from the pill, say reproductive disease specialists Bruce V. Stadel, M.D., M.P.H., and Nancy Lee, M.D., of the Centers for Disease Control. The trend must first be substantiated in other studies, they say. Furthermore, they are concerned about the methodology used in the study. For example, there is insufficient information about subject characteristics, matching procedures and interviewing techniques, they say.

Moreover, American researchers say that they have since accumulated additional data that, when analysed, will confirm or refute the new British findings. These still-unpublished studies from CDC, NIH, Boston University, and World Health Organization contain "better numbers" than the British work, one CDC researcher confided.

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### Foreigners Competing For American Organs

On Capitol Hill there is growing concern that foreigners may overload a transplant system already stretched to capacity. More than 10,000 Americans were on waiting lists for kidney transplants last year and some 70,000 persons are on dialysis machines. However, foreigners receive between 3.5% and 7% of all American kidneys each year, according to statistics gathered by the American Society of Transplant Surgeons.

They travel from as far away as Tanzania and Qatar to take advantage of the United States' seemingly endless supply of medical resources and technology. The majority are from Moslem countries where religious customs allow acceptance but not donation of organs, and less developed countries where economic constraints are the obstacle.

Testifying in November before the House Committee of Science and Technology, U. S. physicians stressed that medicine is a humanistic discipline and should not be viewed in nationalistic terms. The Hippocratic Oath makes no distinctions based on race, color or place of origin, physicians agreed. Overwhelmingly, U. S. physicians support the current system that permits their skills and services to be available to all citizens of the world.

Many physicians believe that a straightforward "Americans first" policy is morally objectionable. Others contend that an "American first" policy is fair, but that foreigners should not be rejected and instead receive organs that are unsuitable for U. S. citizens. Foreigners need not receive inferior organs, they explain, but simply organs that for whatever reason — length of storage, excessive vascularization, history of infections such as herpes, meningitis or pneumonia — may make rejection a more likely possibility.

"The issue of a medical decision should not be interfered with by geopolitical considerations," said G. Baird Helfrich, M.D., director of the Division of Transplantation at Georgetown Uni-



versity Hospital. "A foreign national is a patient and should be treated as a patient," he says.

Rather than restricting access, some experts urged an even more widened pool of candidates. It is extremely difficult to obtain a perfect match within the entire country and possibly the entire world. Since there are more than 80 different tissue types combined in different ways, the chance of obtaining a perfect match is about 1:100,000. Barriers need to be broken, not built, said Paul I. Teraski, M.D., professor of surgery at the University of California School of Medicine in Los Angeles.

Most hospitals choose transplant candidates based on histocompatibility, clinical factors, patient's serum sensitivity, preservation time, and proximity and ease of transport of organs. Once accepted as a good candidate, some hospitals put the foreign patient on the transplant list along with other U. S. patients; others put the foreign patient on the priority list for organs unused by U. S. patients, which would otherwise be shipped out of the country. Persons who are very ill, on dialysis, or whose only chance of survival is transplantation may be placed on an "urgent" or "emergency" list.

The benefits of the current system outweigh any advantages of a more restrictive policy. There is no preferential treatment being given to foreigners in the distribution and allocation of organs, they point out. On the contrary, foreigners take up the slack of organs that are wasted, either unused or unmatched.

The foreigner coming to America for an organ may even bring some important advantages to the system, physicians explained. Transplantations to foreigners help share the fixed costs of a transplantation program to the American taxpayer. "Large transplant programs have a number of fixed costs which have to be shared by the total number of transplant operations performed; the addition of perhaps 10 foreign transplants could cut the fixed costs to the U. S. taxpayer in half," said George E. Schreiner, M.D., professor of medicine at Georgetown University School of Medicine.

Foreign recipients also decrease the distribution problem for cadaveric organs, increase the percentage that are actually used, enlarge transplant programs to make them more efficient, and provide case material for clinical investigation, facilitating research, Dr. Schreiner said.

Rather than overhauling the current system, physicians offered other recommendations. The United States could:

- establish a quota system for foreign transplants;
- establish categories of priority;
- export a larger number of organs that are unusable by U. S. standards, opening greater opportunities to foreign countries;
- increase the number of donations, rather than restricting the number of recipients due to national origin; or
- assist other countries in developing the technology necessary to establish their own organ transplant systems.

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### Congress Tackles Infant Problems

Infant mortality rates worsened in at least nine states in 1982 and other states had pockets where infant deaths rose significantly.

The statistics, reported at a hearing of the Congressional Joint Economic Committee, were compiled by the Food Research and Action Center, a Washington-based health research group which earlier this year released figures showing increased infant mortality in several major cities. The new data shows that infant deaths (which averaged 11.2 per 1000 live births in the U. S. in 1982) jumped in states as diverse as Alabama and Utah.

While the increases were only half a percent or less in six of the nine states, three states (Alabama, New Hampshire and Vermont) saw increased death rates of about a percent.

Furthermore, mortality rate changes haven't been compiled yet for 15 states, and even in states which are not reporting overall increases, infant mortality was up substantially in some areas. In Michigan, for example, infant mortality rates resumed a downward trend (12.8 per 1000) in 1982, after having risen to 13.2 in 1981. But, in one part of Detroit a baby's chance of dying before its first birthday was 33 in 1000 — about the same as in Honduras, the poorest country in Central America.

These and similar statistics are being cited by child health advocates as evidence of a "rising tide in needless infant deaths" resulting from reductions of up to 30% in federal funding for maternal and child health programs since 1981. Proponents say that prior to such cuts, these programs were saving up to \$5 for every \$1 they spent and

that infant mortality rates dropped by over 40% between 1967 and 1979 in part because of such programs.

Congressional debate, to resume after Congress reconvenes in January, will revolve around two types of proposals: those that expand authorization levels for maternal and child health block grants to states and those that enhance federal Medicaid spending for children and pregnant women. In the House, the fight is being led by House Commerce Health Subcommittee Chairman Rep. Henry Waxman (D-CA). In the Senate, it is being carried by Sens. Lloyd Bentsen (D-TX), Dale Bumpers (D-AR) and Alan Cranston (D-CA) among others.

The maternal and child health block grant was created in 1981 when seven categorical programs funded at about \$457 million were combined into a single program for which \$399 million has been authorized in fiscal 1984. Although this is more than the \$373 million authorized in 1983, funding in 1984 is actually decreasing by about \$79 million since a \$105 million jobs bill supplement provided in 1983 is not scheduled to continue in 1984.

If inflation is considered, say the March of Dimes Birth Defect Foundation and the American Academy of Pediatrics, the block grant has reduced funding to maternal and child health programs by 28 to 30% from what the programs would have received had they remained categorical. Furthermore, AAFP representative Kenneth Osgood, M.D., told the Joint Economic Committee, the cuts to maternal and child health programs were greater than those in any other health block grant, and they have been particularly deleterious to programs for poor women and children in the inner city.

At the same time, Medicaid has been cut about \$4 billion and community health centers which provide key services to mothers and children, have been reduced by about 25%.

Recently, however, some fiscally conservative states have shown a surprising trend toward increasing funding for mothers and children. Mississippi, Illinois and Ohio are among a handful of states that hope to curb overall state spending by expanding Medicaid benefits for mothers and children. The decision follows the discovery that reducing Medicaid benefits increased state and county costs for indigent care at public hospitals

and stems from a desire to supplant the local dollars with Medicaid matching from the federal government.

Rep. Waxman wants more states to expand benefits for mothers and children, and to this end, he pushed through a Child Health Assurance Program (CHAP) as part of the Commerce panel's budget reconciliation proposal. Expected to cost about \$200 million in fiscal 1984, CHAP would extend Medicaid coverage to first-time pregnant women who would qualify for Medicaid once their baby is born and to children and pregnant women in two-parent families where the primary wage-earner is unemployed. In 1986, women in all low-income families would be covered regardless of the family's employment status.

Ten states, which already cover all these categories, would receive slight, if any, increases in federal Medicaid funds. But for the remaining states, which presently deny coverage to some or all these beneficiaries, the federal government would pay the entire cost of coverage for the new categories of recipients.

In the Senate, Bentsen persuaded the Finance Committee to include a modest two-year maternal health provision in the committee's health plan for the unemployed. Estimated to cost \$10 million a year and scaled down from another Bentsen proposal, the Finance provision would require state Medicaid plans to cover pregnant women who would otherwise be eligible as soon as their child is born. In addition, Sen. Cranston is pushing for Senate approval of legislation similar to Waxman's CHAP proposal.

On another front, the House has already approved a provision that would increase funding for the maternal and child health block grant by \$110 million bringing the authorization to \$483 million in fiscal 1984. The provision is attached to the House-enacted Health Insurance for the Unemployed bill, however, which is stalled in the Senate and may never be enacted.

Sens. Bentsen, Bumpers and Cranston have introduced a similar provision in the Senate which could be asked to vote on the measure as part of a budget reconciliation measure.

Supporters of the proposals claim that failure to enact them will cost federal and state governments millions of dollars a year, primarily in treatment of underweight babies who, by some estimates, are more than twice as likely to be



born to mothers who don't receive prenatal care as to mothers who do.

About one in 20, or 185,000, women in the U. S. receive no prenatal care until the last trimester of care, according to the National Center for Health Statistics, and among black and hispanic

women, about one in 10 forego care until the last three months of pregnancy. Many (at least 25% in one New York study) have sought the care but have been turned away when they are unable to pay for it.

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# keeping up



## Category 1 Continuing Medical Education Programs Available in Arkansas

### NEW TRENDS IN ARRHYTHMIA MANAGEMENT

Presented by James E. Doherty, M.D., *March 2, 8:00 a.m. to 5:00 p.m.*, Room 2B, University Conference Center adjoining the Statehouse Convention Center, Markham and Main Streets, Little Rock. Six hours Category I credit. Registration fee \$25. Sponsored by UAMS.

### PRACTICAL MANAGEMENT OF RHEUMATIC DISORDERS

Presented by Eleanor Lipsmeyer, M.D., and Fred Robertson, M.D., *March 2, 8:00 to 12:00 noon; March 3, 8:00 a.m. to 11:45 a.m.*, Arlington Hotel, Hot Springs. Seven hours Category I credit. Registration fee \$75. Sponsored by UAMS.

### INFERTILITY AND IN-VITRO FERTILIZATION

Presented by Donald R. Tredway, M.D., Ph.D., Department of Gynecology and Obstetrics, Tulsa Medical College, Tulsa, Oklahoma, *March 20, 7:00 p.m.*, Education Building, Baxter County

Regional Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### ANNUAL SURGICAL SYMPOSIUM

Presented by G. Rick Westerman, M.D., *March 29-31*, Arlington Hotel, Hot Springs. Approximately 6 hours Category I credit. Registration fee \$20. Sponsored by UAMS. No other information available.

### SURGICAL THERAPY OF OBESITY

Presented by Edward E. Mason, M.D., Chief of Surgery, University of Iowa, Iowa City, Iowa, *April 17, 7:00 p.m.*, Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. No registration fee.

### SLEEP DISORDERS

Presented by Edgar A. Lucas, Ph.D., *April 28*, UAMS Education II Building. Approximately 7 hours Category I credit. Registration fee \$50. No other information available.

## RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

### EL DORADO — AHEC-SOUTH ARKANSAS

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

**FAYETTEVILLE — AHEC-NORTHWEST**

*Medicine Teaching Conference*, first, third and fifth Thursday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

**FAYETTEVILLE — VA MEDICAL CENTER**

*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.

*Pathology Conference*, second Thursday, 1:00 p.m., Conference Room.

*Peer Exchange*, March: "Infectious Diseases"; April: "Nephrology".

**FORT SMITH — AHEC**

*Cancer Conference*, each Tuesday, 12:00 noon, Fourth Floor Conference Room, Sparks Regional Medical Center.

**JONESBORO — AHEC-NORTHEAST**

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.

*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

*Monthly Perinatal Conference*, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Weekly Medical Lecture Series*, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.

*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Arkansas Methodist Hospital CME Conference*, last Friday, 7:00 a.m., AMH, Paragould.

**LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL**

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Second Floor Classroom.

*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Second Floor Classroom.

*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Polly Thomas Dining Room.

*Infectious Disease Conference*, second Wednesday, 12:00 noon, Second Floor Classroom.

*Pediatric Pharmacology Conference*, third Wednesday, 12:00 noon, Second Floor Classroom.

*Problem Case Conference*, each Thursday, 12:00 noon, second Floor Classroom.

*Primary Care Seminar and Case Presentation*, each Friday, 12:00 noon, Second Floor Classroom.

**LITTLE ROCK — BAPTIST MEDICAL CENTER**

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Auditorium.

*Emergency Medicine Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Conference Room #1.

*Case of the Month*, second and fourth Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

*General Internal Medicine Conference*, third Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

*Renal Conference*, fifth or last Wednesday each month, 12:00 noon to 1:00 p.m., Conference Room #1.

*Morbidity and Mortality Conference*, first Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

*Surgery Conference*, second, third, fourth and fifth Thursday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.

*Cardiology Conference*, fourth Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.

*Cardiopulmonary Resuscitation Course*, fourth Thursday, 7:00 p.m. to 1:00 a.m., Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

**LITTLE ROCK — ST. VINCENT INFIRMARY**

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.

*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E-159, Education Wing.

*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E-159, Education Wing.

*Gynecology Conference*, second Tuesday, 5:30 p.m. to 6:30 p.m., St. Vincent Infirmary, Classroom S-1025.

*Cardiology Conference*, second Tuesday in April, 7:00 a.m. to 8:00 a.m., Room E-159, Education Wing.

*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory.

*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.

*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E-159, Education Wing.

*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.

**LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES**

*Ophthalmology Morning Conference*, each Monday, Wednesday, and Friday, 7:30 a.m., ED II G/104a.

*Orthopaedic Fracture Conference*, each Tuesday, 7:00 a.m., ED II G1/135.

*Medicine Research Conference*, each Tuesday, 8:00 a.m., ED II 8/105.

*Orthopaedic Grand Rounds*, each Tuesday, 10:00 a.m., ED II G1/135.

*Medicine-Pathology Conference*, each Wednesday, 12:30 p.m., 3E06.

*GI-Radiology Conference*, each Wednesday, 8:00 a.m., Radiology Conference Room.

*Neuro-Radiology Case Conference*, each Wednesday, 4:00 p.m., M1/293.

*Medicine Grand Rounds*, each Thursday, 12:00 noon, Child Study Center Auditorium.

*GI-Problem Case Conference*, each Thursday, 3:30 p.m., 3D29.



*Ophthalmology Problem Case Conference*, each Thursday, 4:00 p.m., AGC3/150.  
*Surgery Grand Rounds*, each Saturday, 9:00 a.m. to 12:00 noon, ED II G/131 a&b.

**TEXARKANA — AHEC-SOUTHWEST**

*Tumor Conference*, first Wednesday, 7:00 a.m., St. Michael Hospital.  
*Chest Conference*, third Wednesday, 12:30 p.m., St. Michael Hospital.



## PERSONAL AND NEWS ITEMS

### DR. STOUGH SPEAKS

Dr. D. B. Stough, III, of Hot Springs spoke to the Hot Springs Village Evening Lions Club. The topic of his talk was "Central America."

### OFFICERS ELECTED

Dr. Michael Baldwin of Mena was elected president of the Polk County Medical Society. Other officers are Dr. Henry N. Rogers, vice president, and Dr. David Fried, secretary.

### DOCTORS CERTIFIED

Drs. G. B. Waldon, William Swindell, Gary Neaville, M. C. Reese, W. A. Rolniak, A. R. Addington, and Jerry Hitt of Rogers were recently certified in Advanced Cardiac Life Support. Drs. R. S. Venable and Jay Holland of Little Rock were instructors for a two-day ACLS course for physicians at Rogers Memorial Hospital.

### CARROLL COUNTY CHARTERED

Dr. Rhys Williams, a member of the Arkansas Medical Society Council, presented the charter to the Carroll County Medical Society members during a meeting held in the home of Dr. Oliver Wallace in Green Forest. Dr. Ralph Williams of Berryville is president of the new Society and Dr. Harold Stensby is secretary.

### DR. BUFFINGTON SPEAKS

Dr. Mike Buffington of DeQueen was guest speaker for a meeting of the DeQueen Lions Club. He spoke on "Acupuncture."

### DR. BROOKS ELECTED

Dr. R. Teryl Brooks of Pine Bluff has been elected to the Board of Directors of the Pine Bluff-Jefferson County Chamber of Commerce.

### DR. BUSH SPEAKS

Dr. Martha Bush of Springdale conducted a seminar on Anorexia Nervosa which was

sponsored by the Springdale school nurses and counselors.

### CHRISTMAS GIFT TO COMMUNITY

Drs. Neil D. Mullins and Donald D. Weaver of Bentonville offered free office visits to area residents as their Christmas gift to the community. The service was offered for one day before Christmas.

### DR. GLOVER SPEAKS

Dr. Lawson Glover of Little Rock spoke at a recent meeting of the Benton Lions Club. Dr. Glover talked on modern devices for diabetics.

### DR. HARMON CHARTER MEMBER

Dr. Harry Harmon of Rogers is a charter member of the Residents Against Drug Abuse in Rogers, Inc. (RADAR).

### DR. MASHBURN SECRETARY

Dr. James D. Mashburn of Fayetteville has been elected secretary of the Arkansas State Police Commission. Dr. Mashburn has served on the Commission since 1980.

### DR. CHAPMAN CHIEF OF STAFF

Dr. Jerry Chapman of Cabot is the newly-elected chief of staff at Rebsamen Hospital in Jacksonville. Other officers elected are Dr. Joe Daugherty as secretary, Dr. James R. Weber as chief of medicine, Dr. Rex N. Moore as chief of surgery and Dr. Alan R. Storeygard as chief of obstetrics-gynecology.

### DR. SALTZMAN SPEAKS

Dr. Ben Saltzman was guest speaker at a recent meeting of a Little Rock Chapter of the American Association of Retired Persons. Dr. Saltzman's subject was "A Family Physician Looks at the Aging Population."

### CONVENTION EXHIBITS

Dr. Robert Casali, chairman of the Scientific Exhibits Committee of the Arkansas Medical Society, encourages physicians to consider having scientific displays at the 1984 Annual Session in Little Rock. The meeting will be held in the Statehouse Convention Center and the Excelsior Hotel. Exhibits will be set up on Wednesday afternoon, April 11. Exhibitor hours will be from 8:00 a.m. to 5:00 p.m. on Thursday and Friday (April 12 and 13) and from 8:00 a.m. to noon on Saturday (April 14). All exhibit materials must be removed from the exhibit hall by 5:00 p.m. on Saturday. Interested physicians may contact Leah Richmond at the Society headquarters office for an exhibit application form. The address is Post Office Box 1208, Fort Smith 72902. Telephone numbers are: in Fort Smith 782-8218; other cities in Arkansas, 1-800-542-1058.

### DR. SMITH FELLOW

Dr. Phillip L. Smith of Hot Springs is a newly-elected fellow of the American College of Radiology.

### DR. ALEXANDER ELECTED CHIEF

Dr. John Alexander, Sr., of Magnolia is the new chief of staff of the Magnolia Hospital and president of the Columbia County Medical Society. Other officers are Dr. Ronald Baldwin, vice president and vice chief; Dr. Jack Walker, chief of medicine, respiratory therapy and physical therapy; Dr. Scott McMahan, chief of surgery, anesthesia and recovery; Dr. Charles Weber, chief of obstetrics-gynecology; Dr. Rodney Griffin, chief of intensive care, cardiology care and emergency room; Dr. Charles Kelley, chief of clinical lab; Dr. John Farmer, chief of medical library services, Dr. John Ruff, delegate to State Society; and Dr. Robert Hunter as alternate delegate.

### DR. SPEER ELECTED

Dr. Marolyn Speer has been elected to a three-year term on the Board of Directors of the Stuttgart Chamber of Commerce.

### DR. BIONDO HONORED

Dr. Raymond V. Biondo of North Little Rock was awarded a certificate of merit by the Arkansas State Department of Health for his achievement in community health promotion.

### DR. SCOTT ELECTED CHIEF

Dr. William W. Scott of Pocahontas is the newly-elected chief of staff at Randolph County Medical Center. Dr. Richard Lombardo is the

outgoing chief-of-staff. Dr. Albert Baltz, also of Pocahontas, was elected secretary-treasurer and chief of staff-elect.

### DR. PURDY PRESIDENT

Dr. Harold D. Purdy of Little Rock was recently installed as the president of the Pulaski County Medical Society for 1984. Dr. Purdy is in Family Practice.

Other officers of the Society are Dr. Warren Douglas, president-elect; Dr. Fred Henker, vice president; Dr. David Barclay, secretary; Dr. Charles Rodgers, treasurer; and Dr. Warren Boop, treasurer-elect. All reside in Little Rock.

### DR. WAGONER CHIEF

Dr. Jack Wagoner, Jr., of Little Rock has been elected chief of staff at St. Vincent Infirmary. Dr. Robert Jones, also of Little Rock, is the outgoing chief. Dr. Joseph D. Calhoun is vice chief of staff and Dr. A. Reed Thompson is secretary-treasurer.



## OBITUARY

### DR. CARL L. WILSON

Dr. Carl Wilson of Fort Smith died December 22, 1983. He was born June 5, 1911, and was a native of Yonkers, New York.

Dr. Wilson received his pre-med education at New York University. In 1935 he was graduated from the University of Virginia School of Medicine in Charlottesville. His internship and residency in Urology were with Kings County Hospital in Brooklyn, New York. Dr. Wilson was a member of the Alpha Omega Alpha.

During World War II, Dr. Wilson served as a lieutenant colonel in the Army Medical Corps.

Dr. Wilson was the first fully-trained Urologist in Fort Smith. He joined the Holt-Krock Clinic in 1940. He was the first Medical Director of the Clinic and he had also served as its chief financial officer. His brother, Dr. Morton Wilson, and his son, Dr. Steven Wilson, are also associated with Holt-Krock in the practice of Urology.

Dr. Wilson was a past president of the Sebastian



County Medical Society, a past state representative to the American Urological Association and Regent of International College of Surgeons. He served six terms as Chief of Staff at Sparks Regional Medical Center. He was a fellow of the

American College of Surgeons and the International College of Surgeons and was certified by the American Board of Urology.  
 Dr. Wilson is survived by his wife, Mrs. Bette Wilson, two sons and a stepson.



**NEW  
MEMBERS**

**DR. HENRY A. JONES**

Dr. Jones has joined the Lonoke County Medical Society. He is a native of Paintsville, Kentucky.

Dr. Jones received his Bachelor of Arts degree in 1956 from Centre College of Kentucky at Danville. He was graduated from the University of Louisville School of Medicine in 1960. His internship was with St. Elizabeth Hospital in Dayton, Ohio.

Dr. Jones served with the United States Air Force from 1961 to 1964. He then practiced in Flatwoods, Kentucky, for eleven years and returned to the Air Force for four years. Dr. Jones served as Chief of Flight Medicine at Wright Patterson Air Force Base in Dayton, Ohio, from 1975 to 1976, and as Director of Clinical Medicine, Hyperbaric Medicine Division, at the School of Aerospace Medicine in San Antonio from 1977 to 1979.

Dr. Jones practiced in Darlington, South Carolina, from 1979 to 1983. He moved to England in 1983.

Dr. Jones specializes in Family Practice and is certified by the American Board of Family Practice.

He has joined the England Medical Associates at 520 Northeast 4th in England.

**DR. LAURA J. KOEHN**

Dr. Koehn, a new member of the Washington County Medical Society, was born in Westville, Oklahoma.

She received her pre-medical education at Northeastern State University in Tahlequah, Oklahoma. She is a 1960 graduate of the University of Oklahoma College of Medicine in Oklahoma City. Her internship and residency training were with Wesley Hospital (now Presbyterian Hospital) in Oklahoma City.

Dr. Koehn practiced with the Well Child Clinics and Galveston County Health Department in Galveston, Texas, and the Student Health Department at the University of Kansas in Lawrence from 1963 to 1967. She was in General Practice in Westville, Oklahoma, from 1967 to 1972. She located in Fayetteville in 1972.

Dr. Koehn is board certified in Allergy.

She practices at 2100 Green Acres Road in Fayetteville.



**THINGS TO  
COME**

The Southern Medical Association has announced the following continuing medical education programs:

*How Payment Changes Affect Your Practice.* March 9-11, Marriott Hotel, San Antonio, Texas.

April 6-8, The Breakers, West Palm Beach, Florida. Fee \$220 for members of SMA and \$275 for nonmembers.

*First Annual Meeting of the Southern Orthopaedic Association.* March 28-April 1, Cable Beach Hotel, Nassau, Bahamas. Fee \$125 for

## THINGS TO COME

members of SOA; \$200 for nonmembers.

For further information on any of these programs, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; telephone 205-323-4400.

### **March 29-31**

*Arkansas Chapter, American College of Surgeons'* spring meeting. Arlington Hotel, Hot Springs.

### **April 4-6**

*1984 Family Practice Update.* Department of Family Medicine of the University of Mississippi School of Medicine. 24.5 hours Category I American Medical Association and American Academy of Family Physicians. For further information, contact Continuing Education, University of Mississippi Medical Center, 2500 North State Street, Jackson, Mississippi 39216; phone 601-987-4914.

### **April 6-7**

*Gynecologic Oncology Symposium "Cervical Neoplasia."* Sponsored by The University of Texas M.D. Anderson Hospital and Tumor Institute. Stouffers Hotel, Houston, Texas. For additional information: Office of Conference Services, Box 131, M.D. Anderson Hospital and Tumor

Institute, 6723 Bertner Avenue, Houston, Texas 77030; phone 713-792-2222.

### **April 12-15**

*108th Annual Session, Arkansas Medical Society.* "Management of Chronic Disease." Excelsior Hotel and Statehouse Convention Center, Little Rock.

### **May 18-19**

*4th Annual Cardiovascular Symposium "Therapies in Cardiac Disease."* Sponsored by St. John Cardiovascular Institute. Excelsior Hotel, Tulsa, Oklahoma. For additional information, contact LoRayne Whitehead, M.S.N., St. John Cardiovascular Institute, 1923 South Utica Avenue, Tulsa, Oklahoma 74104; telephone 1-800-331-9102.

### **May 30-June 2**

*The American Academy of Clinical Anesthesiologists 1984 Spring Seminar in Anesthesiology.* Co-sponsored by the Academy and the East Tennessee State University College of Medicine. Hilton Head Inn, Sea Pines Plantation, Hilton Head Island, South Carolina. For more information, contact Program Director, American Academy of Clinical Anesthesiologists, Post Office Box 11691, Knoxville, Tennessee 37939-1681; telephone 615-588-6279.





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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to this membership.

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## The Clinical Evaluation of Body Fat

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The fallacy of using body weight and insurance height-weight charts as part of the routine medical examination was explained in a recent issue of the *Arkansas Medical Journal*.<sup>10</sup> A more meaningful and medically valid approach to patients' needs is the assessment of body fat. The composition of both lean and fat tissue provides critical information to the medical practitioner and presents the best indice of obesity.<sup>12</sup>

Various techniques may be used to assess the percentage of body tissue contained as fat. In the research laboratory, underwater (or hydrostatic) weighing allows a highly accurate means of determining body density, which is then extrapolated to % body fat.<sup>14</sup> However, this procedure requires a swimming pool or underwater tank, highly accurate scales sensitive to .01 kg, significant time (about 30 minutes per individual) and patient cooperation. It is certainly not a cost effective procedure for a clinical setting. According to a recent study conducted among the Fellows of the American College of Sports Medicine,<sup>3</sup> the use of skinfolds to assess % body fat ranked second behind underwater weighing as a valid procedure and first with respect to simplicity and practicality. Skinfold assessment of body fat requires either a highly accurate mechanical caliper or electronic fat calipers.<sup>1</sup>

Some major objections to the use of skinfolds in the past have included imprecision of the instrument, the need to perform tedious calculations or refer to a cumbersome chart, and technician variability in measurement. Even with these inherent errors, position statements have been taken by a number of medical and health organizations indicating the role and value of skinfold assessments

of body fat in lieu of body weight. The purpose of this report is to present the most current and scientifically accepted techniques for the assessment of body fat through skinfold measurements.

Much of the variability and error in skinfold estimates of body fat have been eliminated through use of a newly developed electronic body fat calculator (SKYNDEX). The thickness (in mm) at each site is internally recorded and calculations are performed automatically resulting in an instantaneous display of % body fat. The particular sites and equations chosen for the medical profession were based upon recent and extensive testing of men and women from 17 through 72 years of age, which compared several skinfold site measurements to underwater weighing.<sup>7,9</sup> The resulting formula established 7 sites for men and women along with age adjustments to predict body fat with a high degree of accuracy ( $r=.87$ ). A statistically reduced model, evaluating 3 sites for men and 4 sites for women, decreased the measurement time to less than one minute with little loss in accuracy ( $r=.85$ ). Perhaps the greatest single contribution of this electronic caliper is its ability to take multiple measurements at each site and disregard all values that are not within 1.0 mm of each other. This feature significantly reduces the variability among technicians inherent with mechanical calipers.

Since calculation error and variability have been significantly reduced with the proper evaluative tool, it is essential that skinfold site location and the "pinching" technique become standardized. A step-by-step procedure for "pinching" is presented below followed by a pictorial layout and written description of the proper site and location using Jackson and Pollock's generalized equations for the general population.<sup>7,8</sup>

### Technique of the Pinch<sup>6</sup>

The greatest error in assessing body fat using skinfolds is the "human" error in the way measurements are made. To insure a high degree of accuracy, follow the step-by-step procedures and

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<sup>1</sup>Two mechanical calipers which meet minimum standards are Lange and Harpenden. The only electronic caliper which meets or exceeds minimum specifications is the SKYNDEX. Several electronic SKYNDEX body fat calculators have been produced, each programmed for different formula and sites, as well as specific models for children (6-16 years of age) and the elderly population (over 70 years of age).

practice on a number of individuals before using any values for diagnostic purposes.

1) The Amount of Skin to be Pinched. The amount of skin that you will pinch will depend upon the specific site and the thickness of the skin and underlying tissue. The skinfold should be taken with moderate pressure to prevent slippage, but the force applied to the fold should not cause extreme compression of the underlying tissue. Naturally, none of the muscle should be included in the skinfold. If you are unsure of the presence of muscle tissue, ask the person to contract his muscle.

2) Correct placement of fingers and lifting technique. The fingers should be placed vertically on most folds (with the exception of the subscapula, iliac crest, and the chest, which require a diagonal fold at a 45° angle), with a spread of 3 to 8 cm between the thumb and forefinger. A fold is best created by using the thumb and forefinger as a "C" clamp. The skin surfaces of the fold should be parallel.

3) Placement of the measurement tips. The measurement tips are placed approximately 1 cm from the fold created by your thumb and forefinger with the display facing upward (allowing you to read the numerical display). The tips should be placed directly on the fold. If placed too deep to the underlying tissue or too high on the crest of the fold, the placement will cause an inaccurately high reading. Allow the numbers on the display (or the pointer if using a mechanical caliper) to settle down to a halt or until the decrease is less than 0.1 mm per second. At this time, press the rocker switch to enter the value into memory, if using the SKYNDEX, or record this value, if using mechanical calipers. The depth from the crest of the skinfold at which the measurement tips are placed should approximately correspond to the thickness of the skinfold itself.

4) Location of the site. The specific location of the site is shown in the accompanying figures. In general, take only the amount of skin necessary to form a skinfold when grasped firmly between the thumb and forefinger. It may be of some help to mark the specific site with a grease pencil until you have mastered the location. Some sites are easier to take and less critical than others. The subscapula skinfold is one such area. However, the

triceps will show significant variation unless care is taken to locate the exact position.

5) Repeatability. If you find it necessary to take another reading of the same site, wait at least 30 seconds to avoid a false low reading due to compression of the skinfold area. The repeat measurement should be within 1.0 mm of the first reading. The keys to developing an accurate "pinch" are:

- 1) Correct spread of the thumb and forefinger (3 to 8 cm).
- 2) Correct lifting technique (folds should be parallel).
- 3) Correct placement of the measurement tips (on the fold itself).
- 4) Care in not including bone and muscle in the pinch.

#### **Skinfold Sites for Men and Boys**

Three skinfold sites are taken for men and boys (ages 17 through 72) on the right side of the body:<sup>13</sup>

- 1) Chest: a diagonal fold taken one half of the distance between the anterior axillary line and nipple. (Figure 1)
- 2) Abdomen: a vertical fold taken at a lateral distance of 2 cm from the umbilicus. (Figure 2)
- 3) Thigh: a vertical fold on the anterior aspect of the thigh, midway between hip and knee joints. (Figure 3)

#### **Skinfold Sites for Women and Girls**

Four skinfold sites are taken for women and girls (ages 7 through 72) on the right side of the body:<sup>13</sup>

- 1) Abdomen: a vertical fold taken at a lateral distance of 2 cm from the umbilicus. (Figure 2)
- 2) Thigh: a vertical fold on the anterior aspect of the thigh, midway between hip and knee joints. (Figure 3)
- 3) Suprailium (or Iliac Crest): a diagonal fold above the crest of the ilium at the spot where an imaginary line would come down from the anterior axillary line. (Figure 4)
- 4) Triceps: a vertical fold on the posterior midline of the upper arm (over the triceps muscle), halfway between the acromion and olecranon processes: the elbow should be extended and relaxed. (Figure 5)



## CHEST

Location



Measurement



Figure 1. Location of the chest skinfold site and placement of the measurement tips using the SKYNDEX caliper. See text for written description of sites in Figures 1 through 5.

## ABDOMEN

Location



Measurement



Figure 2. Location of the abdominal skinfold site and placement of the measurement tips using the SKYNDEX caliper.



THIGH

Location

Measurement

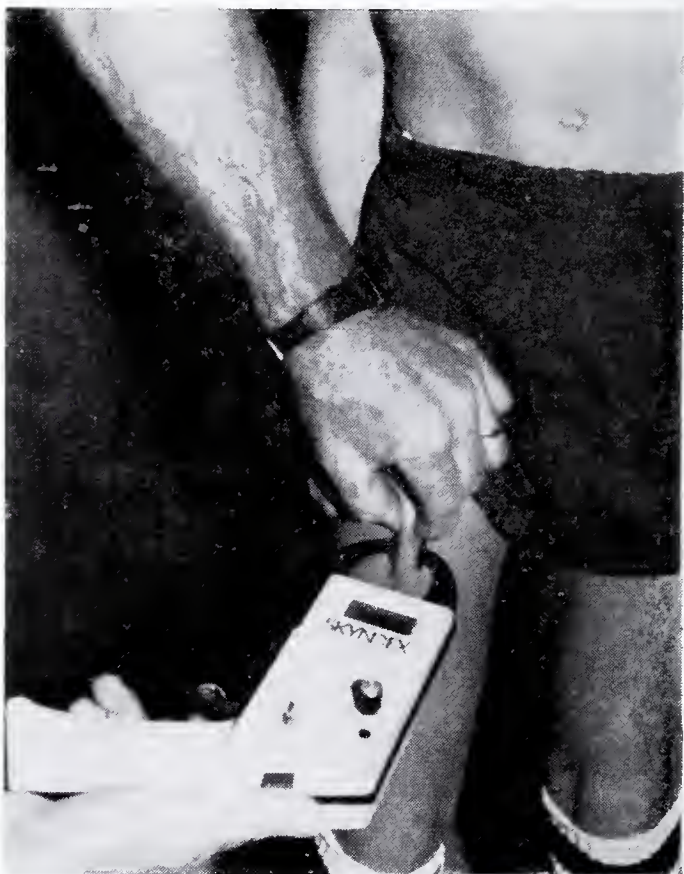


Figure 3. Location of the thigh skinfold site and placement of the measurement tips using the SKYNDEX caliper.

ILIAC CREST

Location

Measurement

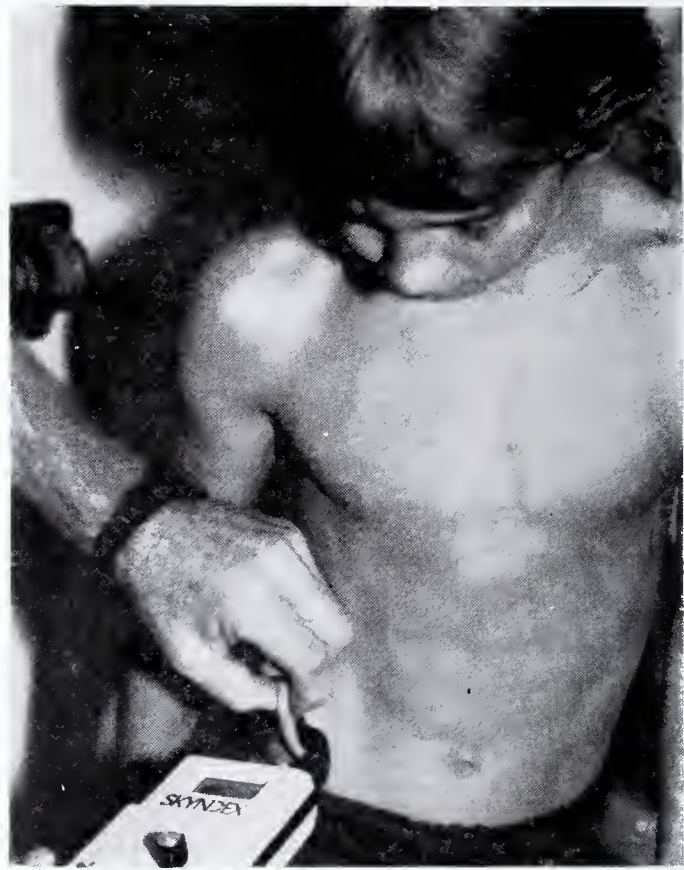


Figure 4. Location of the suprailium (or iliac crest) skinfold site and placement of the measurement tips using the SKYNDEX caliper.



## TRICEPS

### Location



### Measurement



Figure 5. Location of the triceps skinfold site and placement of the measurement tips using the SKYNDEX caliper.

### Interpretation

Significant data has been collected on endurance athletes which indicates 10% and 18% to be maximum desirable values for men and women, respectively.<sup>1, 2, 4, 5, 9, 11, 15</sup> Desirable levels for non-athletes are less precise, although women tend to be 7% to 10% fatter than men due to essential fat deposition (13% for women and 3% for men). According to Pollock, it appears logical that % body fat should be maintained at the level achieved at puberty.<sup>13</sup> Most body fat researchers place the ideal upper limit for men at 17% and women at 22%. Based upon data from several skinfold studies, we have comprised a body fat classification card to be used with the Jackson-Pollock equations:

		% Body Fat	
Classification		Men	Women
Excellent	Less than:	10%	15%
Good		11 - 14	15 - 17
Acceptable		15 - 17	18 - 22
Overfat		18 - 19	23 - 27
Obese		20 +	28 +

Following the assessment of body fat, it is imperative that the physician provide the proper information on procedures needed to reduce fat levels and the time goals required to realistically reach one's ideal upper fat limit (or less!). Subsequent articles will discuss the role of exercise and nutrition (including "fad" diets) in the alteration of % body fat and the role of the physician, in cooperation with a nutritionist and exercise technician, in providing the necessary information and guidance in fat reduction.

### REFERENCES

1. Behnke, A. and J. Royce. Body size, shape and composition of several types of athletes. *J. Sports Med. Phys. Fitness*, 6:75-88, 1966.
2. Behnke, A. and J. Wilmore. *Evaluation and Regulation of Body Build and Composition*, Prentice-Hall, Inc., Englewood Cliffs, N. J., Chap. 7, pp 155-173, 1974.
3. Brown, B et al. Assessment of body fat among fellows of the American College of Sports Medicine: A Survey of techniques. In preparation for submission to *Res. Q.*
4. Coleman, A. Skinfold estimates of body fat in major league baseball players. *Phys. Sports Med.*, 9:77-82, 1981.
5. Daniel, M., B. Brown et al. Prediction of football play-

- ing ability and body fat among university level athletes, submitted to *J. Applied Physiol.*
6. Instruction Manual, SKYNDX Electronic Body Fat Calculator, *Caldwell & Justiss*, 7 Colt Sq., Fayetteville, AR 72701, pp. 7-8.
7. Jackson, A. and M. Pollock. Generalized equations for predicting body density of men. *Brit. J. Nutr.*, 40:497-504, 1978.
8. Jackson, A., M. Pollock and A. Ward. Generalized equations for predicting body density of women. *Med. Sci. Sports Exer.*, 12:175-182, 1980.
9. Katch, F. and E. Michael. Body composition and high school wrestlers according to age and wrestling weight category. *Med. Sci. Sports*, 3:190-194, 1971.
10. McNair, J. and B. Brown. The significance of measuring body fat in medical practice. *Ark Med. J.*, in press.
11. Novak, L., R. Hyatt and J. Alexander. Body composition and physiologic functions of athletes. *J.A.M.A.*, 5:764-779, 1968.
12. Nutrition and Physical Fitness: A Position Statement. *Amer. Diet. Assoc. J.*, 76:437-443, 1980.
13. Pollock, M. and D. Schmidt. Measurement of cardio-respiratory fitness and body composition in the clinical setting. *Comprehensive Therapy*, 6:12-27, 1980.
14. Siri, W. E. Body composition from fluid spaces and density: Analysis of methods. *Techniques for Measuring Body Composition*, 1961. National Academy of Science—National Research Council. Washington, D.C., pp. 223-244.
15. Sprynarova, S. and J. Parizkova. Functional capacity and body composition in top weight-lifters, swimmers, runners and skiers. *Int. Z. Angew. Physiol.*, 29:184-194, 1971.





# Torsion of the Cord in the Newborn

Hamilton R. Hart, M.D.\*

Torsion of the spermatic cord in the newborn is a true surgical emergency. It is recognized by a firm testicular mass that does not transmit light and a bruised appearance of the scrotum, demarcated to only on one side. Examination and evaluation of maternal histories and delivery records do not reveal any identifiable etiologic factors. Frequently, these are large infants with a high APGAR score. It is obviously a source of discomfort to the infant who displays irritability, increasing crying, and finally toxic signs associated with necrosis of the tissue if left untreated.

A 9-pound, 3-ounce male child who was the product of a normal pregnancy of 40 weeks gestation was delivered normally with an APGAR of 9 at 1 minute and 10 at 5 minutes. This was the second pregnancy for the 22-year-old mother. The baby's vital signs were stable.

When examined at age 12 hours, the infant was noted to have a dark scrotum localized to the right side which was quite tense. The scrotum itself would not transilluminate, and a presumptive diagnosis of torsion of the cord was made. The child was taken to the operating room immediately where the scrotal contents were explored under general anesthesia. The cord structures themselves were necrotic and were removed. The opposite side was also explored with the testicular structures being sewn down in such a manner as to prevent torsion at a future time. The cord structures in the unaffected side were felt to be within normal limits.

The wound was closed, a small Penrose drain inserted, and the patient returned to the recovery room in satisfactory condition. His post-operative course was uneventful and he was able to be discharged from the hospital four days after birth for care as an out-patient.

In summary, early recognition of torsion of the spermatic cord in the newborn is important for survival of the testicular tissue. However, it must be remembered that frequently the torsion of the testes does occur during labor and delivery, and that the initial examination of the child may be completely normal with evidence of torsion appearing in the next 8 to 10 hours.

Nurses in the nursery as well as physicians should be aware of this condition as it is a surgically correctable illness if found in time and treated with exploration and detorsion. Delay in diagnosis or treatment universally results in necrosis of the testes and cord structures below the torsion.

Operative intervention involves exploration of the scrotal contents and detorsion of the cord. At that time, the cord structure as well as the testes should be observed for return of blood flow and normal appearance of the tissue. The testis is then tacked down to the scrotal wall so torsion cannot recur, and the opposite side is treated in a similar manner to avoid the possibility of future torsion. If the tissue is necrotic, it should be surgically removed with plans for a prosthesis to be inserted at about age 6 years. In explaining the surgical procedure to the parents, it should be made clear that this will not cause permanent sterility if the unaffected side is good. This injury occurs randomly and is without signs or symptoms before birth.

Followup involves routinely seeing the child for growth maintenance and physical development. The child should be brought back for surgery at about age 6 years for implantation of a testicular prosthesis to reestablish a normal cosmetic appearance to the scrotum.

During the following years, the child should be closely observed for maturation and normal secondary sex characteristic development. It is well known that a single testis will produce all the testosterone necessary for normal growth and development as well as provide the normal amount of spermatozoa to ensure that the patient is not sterile.

## LITERATURE SEARCH AND BIBLIOGRAPHY:

Spermatic cord torsion in the neonate

### ADDITIONAL REFERENCES:

- Torsion of the Testicle in the Newborn. Giacomantonio, M. *Canadian Journal of Surgery*, 24(1): 14-5, 18, January 1981.
- Testicular Torsion. Thomas, A. *JACEP (Journal of American College of Emerg Phys)* 8(a): 28-31, January 1979.
- Review Article: Perinatal Torsion of the Spermatic Cord. Visani, S. *Urology*. 6(3): 360-2, September 1975.
- Intrauterine and Newborn Torsion of Spermatic Cord. Whitesel, J. A. *Journal of Urology*, 106: 786, 1971.
- Torsion of the Testis in the Newborn. Auldlist, A. W. *Aust New Zealand Journal of Surgery*, 45: 14, 1975.
- Intrauterine Bilateral Torsion of the Spermatic Cord. Atallah, M. W. *Journal of Urology*, 116: 128, 1976.

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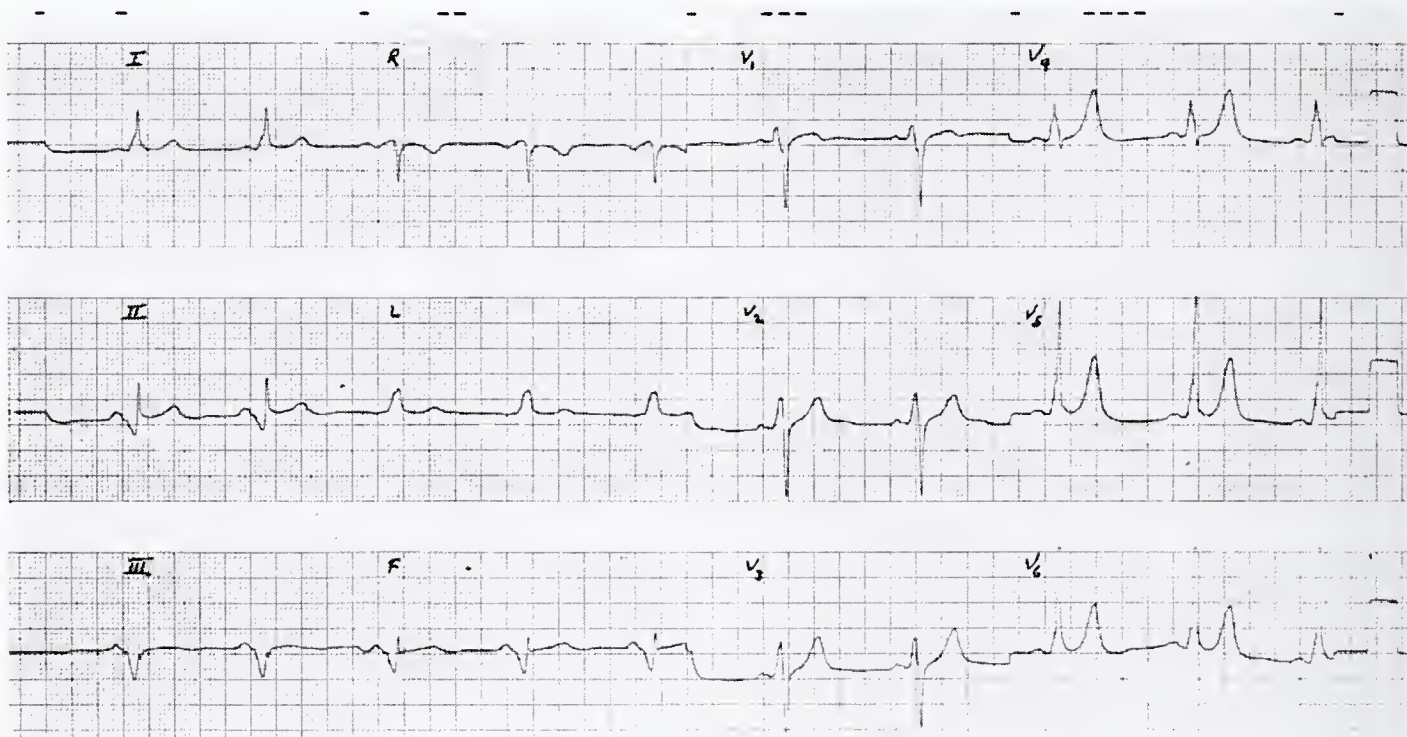


The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 455)

#### HISTORY:

L. H. is a 30-year-old woman who has presented for evaluation of palpitation associated with near syncope. Her cardiac examination was normal. What do you think about her ECG?



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## PUBLIC HEALTH AT A GLANCE

# The Arkansas State Board of Health As Viewed by a Registered Nurse

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To serve on the Arkansas State Board of Health as the Registered Nurse member has been quite a challenge! Four governors (albeit one serving two non-consecutive terms) and three Directors in a period of six years not only presented that challenge to the appointed members of the Board of Health but also to the loyal staff of the Arkansas Department of Health. Different philosophies, different policies, different programming priorities all have made the work for and with the Department interesting, but sometimes rewarding and sometimes frustrating.

When first appointed to serve on the Board, it seemed the board members were serving in a very perfunctory position. The mission of the Department seemed well-established, well-oiled and moving with precision. Thus, when the Board met quarterly as required by law, and the Executive Committee met monthly, as established by policy, "rubber stamping" best describes the activity of both groups. The meetings lasted approximately an hour. Reports of various activities of the many divisions of the Department were given to keep the Board updated. Infrequently, new regulations or amended regulations for the varied agencies, services, etc. which are regulated by the Department were presented. The law requires the Board of Health to approve such before the Administrative Procedures Act can be followed for final approval before implementation.

However, this all changed when Governor Clinton, after his first election, appointed Dr. Robert Young as Director. With all the controversy of his administration, from my perspective, there was one very positive result—the realization that the role of the Board members had to be more than

just perfunctory, more than a "rubber stamp." The Board members had to be more responsible and more accountable to the citizens of Arkansas in health matters as well as being supportive to a very concerned group of loyal employees. Since that time, the Board has assumed a very active role in both areas.

Many of us serving on the Board work in areas that deal primarily with illness. But it does not take long to be oriented to the broad scope of activities and programming of the Department, activities and programs that relate not only to illness but also to wellness and prevention of illness. Little did I realize that one day, as an RN, I would be helping to make a decision to reject a subdivision because the soil was not adequate for drainage of septic tanks that would have to be installed and to direct immediate action to eliminate a health hazard on lots already sold. That hazard? Raw sewage coming from mobile homes on the lots purchased.

That is but one example of the varied responsibilities of the Board and the Department. Rat control, radiation control, Nuclear One, the Dioxin threat in Jacksonville, maternal and child health programs, immunizations, birth and death certificates—and I could go on and on and cover several sheets of paper to list all the activities! Unfortunately, due to the recession and cut-backs in funding resources at both the State and National level, there are several services and programs which have had to be severely curtailed or eliminated entirely. Therefore, a major activity of the Board has been assisting with priority setting in order that the available resources could be utilized most effectively. It seems ironic at a time when society as a whole is giving more emphasis to wellness, conditioning, etc. that these

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were some of the programs which had to be eliminated in order to maintain programs and other functions which are mandated by law(s).

With all the recent furor about "quality" education and the millions of dollars involved, it seems further ironic that "quality" health care receives so little attention and so little of the State's resources. The latest budget of the Arkansas Department of Health represents 2.07% of the total budget of Arkansas State Government. This

statistic alone indicates the severe limitations on what can be spent on nutrition, health screening and corrective measures to keep healthy citizens to take advantage of quality education.

For this reason, if for no other, it continues to be a challenge to sit on the Board with other professionals and consumers; to continue to set priorities for available resources and to assist a loyal, dedicated staff in their efforts to provide the best health care possible for Arkansas citizens.





## Hypotonia and Weakness in Children

Fereydoun Dehkharghani, M.D.\* and Gary Goza, M.D.\*\*

It is not unusual for the primary care physician to be confronted with an infant or young child with hypotonia. This condition has been referred to in the literature as the floppy infant syndrome. Hypotonia may stand out as a striking physical finding in a child whose neuromuscular functions are otherwise difficult to evaluate. The parents want to know why the child is inactive or developmentally delayed and rarely are concerned with the child's tone until the physician makes note of it. It is suggested by some authors that more attention be placed on the evaluation of weakness as they feel that the importance of hypotonia as a physical finding is minimal.<sup>1</sup> Nevertheless, because it allows the physician to develop a rational diagnostic approach to a large number of patients with a wide variety of neurological entities we feel that it remains a useful concept.

Hypotonia can be defined as a decreased resistance to passive motion. Weakness of any significant degree is usually accompanied by hypotonia. However, hypotonia can also occur in the presence of normal strength. A careful history with emphasis on the age of onset, rapidity of onset, presence or absence of progression, birth history, developmental history, and family history can contribute considerably toward defining an etiology. Although establishing the presence of hypotonia in some cases requires an experienced examiner, a number of observations and maneuvers are often helpful in demonstrating that a given child is hypotonic.

Observations of the undisturbed infant may reveal a decrease in spontaneous movements and the assumption of a frog-legged position. The muscle may be flabby to palpation and an unusually large range of motion of the extremities can be demonstrated. Adduction of the elbow past the midline to the opposite side of the body

and the ability to touch the foot to the head are both findings in hypotonia. When the hypotonic infant is grasped under the arms and held up vertically, he will slip through the examiner's hands because of poor muscle contraction in the shoulder girdle. Likewise, with suspension in a horizontal plane the child will hang limply. Perhaps the most useful way to demonstrate hypotonia, particularly in the neonate, is by the traction response. In this maneuver the infant is initially placed in the supine position. The examiner grasps the infant's hands and pulls him to a sitting position. Normally the infant's head comes quickly off the underlying surface and lags behind the body to a slight degree. After reaching the sitting position the head falls forward. By three to five months of age the head does not lag or fall forward. In hypotonic infants there is more than minimal head lag and head control is affected. These findings cannot be interpreted for premature infants, particularly those less than 33 weeks gestation, because hypotonia in this setting may merely represent a physiologic stage of development.

A brief review of the pathophysiology of altered muscle tone is necessary for a full understanding of this phenomenon. Muscle tone represents the combined effect of a number of elements including the central nervous system, peripheral nervous system, muscle fibers, tendons, and joints. It is most difficult to conceptualize how central nervous system alteration leads to hypotonia. This requires a discussion of the gamma motor neuron system. Gamma motor neurons originate in the anterior horn cell of the spinal cord and innervate muscle spindles. These spindles are sensory organs which lie parallel to striated muscle fibers. Afferent sensory fibers from the spindle return to the spinal cord and synapse with anterior horn cells which innervates the striated muscle adjacent to the muscle spindle. Thus, a feedback system is established such that a certain tone is maintained in the muscle. The medium through which this tone is changed is the gamma motor neuron. This

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cell receives innervation from a number of supraspinal areas including cerebral cortex, basal ganglia, and cerebellum. Disease in these areas may ultimately lead to hypotonia due to depression of gamma neuron tonic discharge.

For purposes of classification most etiologies can be lumped into two major categories: central nervous system disease and lower motor neuron diseases. Most children have hypotonia due to a central mechanism with a wide variety of etiologies. The lower motor neuron diseases are subdivided into anterior horn cell, peripheral nerve, neuromuscular junction, and muscle disorders. Each of these areas will be discussed in detail.

### **Central Nervous System Causes of Hypotonia**

Hypotonia and weakness are seen in a wide variety of central nervous system dysfunctions which may be acute or chronic, dysgenetic or degenerative in nature. In the neonatal period an acute encephalopathy caused by hypoxia, CNS hemorrhage, or any other insult to the brain which is destined to cause spastic athetotic cerebral palsy later in life may initially manifest itself as hypotonia and weakness.<sup>2,3</sup> Cerebral dysgenesis as a result of chromosomal abnormalities may be associated with profound hypotonia as is characteristically found in the infant with Down's syndrome. In this category related feature such as multisystem involvement and dysmorphic feature often enables the physician to arrive at the diagnosis of a recognizable syndrome. The presence of progressive intellectual retardation and hypotonia raises the possibility of a degenerative disease of the central nervous system. Although both gray and white matter disease can present this way, it is more commonly associated with conditions with defective myelination. To establish the cerebral origin of hypotonia requires the demonstration of evidence of abnormal cerebral function. In the acute form, the findings of a decreased state of consciousness and brisk deep tendon reflexes along with a history of recent CNS insult are helpful in establishing a diagnosis. Neurodiagnostic tests, including EEG, CT scan and nerve conduction velocity will further help in ascertaining a diagnosis. In cases of suspected inborn errors of metabolism and amino acidopathy, appropriate biochemical studies are in order. Serial reevaluation of the patient may help in the diagnosis of central hypotonia when an adequate clinical history is not available. An example of this is the infant with atonic cerebral diplegia whose poor

tone is superceded by spasticity only as he grows older.

The most common histochemical abnormality seen on muscle biopsy in children with cerebral hypotonia is smallness of Type II fibers. This is a nonspecific finding associated with immobilization. If hypotonia and weakness are the result of CNS insult during early embryogenesis then Type I fiber predominance may occur due to a faulty cerebral influence on the developing muscle.<sup>4</sup>

### **Hypotonia Due to Muscle Disease**

Another group of diseases in which hypotonia is a frequent manifestation are those in which morphologic and neurophysiologic changes occur in the muscle fiber or its membrane. They are referred to as myopathies and include a large number of conditions. The congenital myopathies frequently have a characteristic pathologic appearance but at other times may only have nonspecific pathologic changes with typical clinical features. They are usually present at birth with the infant exhibiting weakness and hypotonia. However, the onset often may not be seen until later in childhood. The majority of the congenital myopathies are non-progressive and in fact the weakness noted in the infant may become less marked in later childhood. As a rule they are characterized by proximal weakness. Deep tendon reflexes may be normal, decreased, or absent. Musculoskeletal anomalies such as contractures, pectus excavatum, congenital hip dislocation, kyphoscoliosis and high arched palate can be seen in a number of these conditions and may provide clues toward establishing a specific diagnosis. Electromyography characteristically shows myopathic potentials. Serum creatine phosphokinase is usually within normal limits or only mildly elevated. Congenital myopathies are frequently found to be inherited in autosomal dominant or autosomal recessive patterns. Because of the similarities in symptoms and physical findings among the various congenital myopathies, it is necessary to perform a muscle biopsy to obtain a reliable diagnosis.

A common form of congenital myopathy is that of central core disease.<sup>5</sup> Like other congenital myopathies it is manifested by weakness and hypotonia since birth. In fact, mothers of the patients often report a decreased amount of fetal movements as well. As expected, they have motor developmental delay with weakness being greater in the lower extremities. Inheritance may be autosomal dominant or sporadic. The diagnosis is



made on the basis of a very characteristic appearing muscle histology. Specific histochemical staining reveals an alteration of enzyme activity in the center of the fibers, hence the term central core. The condition is one that has been associated with malignant hyperthermia.

Other congenital myopathies seen with some frequency are nemaline myopathy, myotubular myopathy, and congenital fiber type disproportion. In nemaline myopathy,<sup>6</sup> characteristic clinical features include a high incidence of dysmorphic facial features and musculoskeletal deformities. In myotubular myopathy,<sup>7</sup> most patients have ptosis, ophthalmoparesis, facial weakness and significant neck muscle weakness. In congenital fiber type disproportion more than half the patients have contractures, and congenital dislocation of the hip occurs in one-third to half of the patients. The accurate diagnosis of these conditions depends on the examinations of the muscle histology. These specific myopathies have been mentioned because of their relative frequencies. However, there have been more than 20 varieties of congenital myopathies to date. No specific therapy exists for any of them at this time.

Related to the above conditions is myotonic dystrophy, a form of myopathy which is more familiar to most physicians. This is a multisystem disease known to cause cataracts, testicular atrophy, cardiac conduction defects, and premature balding along with other less frequent findings. The muscle manifestations are both anatomical and physiological. Changes can be seen in muscle histology and wasting of various head and neck muscle occurs. Physiologically the characteristic finding is myotonia which is due to disturbances in muscle membrane function. It is manifested clinically as an inability to relax a contracted muscle at a normal rate. This can be very well demonstrated electromyographically. Although the condition characteristically begins in late adolescence or early adult life a congenital form is well described.<sup>8</sup> The newborn is hypotonic and has difficulty feeding and breathing. Facial weakness is seen and because the mouth assumes an inverted "V" appearance, they are said to have a fish mouth. Mortality is high for these infants; however, if they survive the first few months of life long-term survival is common. The disease is autosomal dominant with complete penetrance, but considerable variability in expressivity exists. Although myotonia can sometimes be improved

pharmacologically, there is no specific therapy available for the dystrophy. For reasons that are unclear, in the infantile form the affected parent is the mother in more than 90 percent of the cases.<sup>9</sup>

### Diseases of Neuromuscular Transmission

Myasthenia gravis, botulism, and drug induced dysfunction of neuromuscular transmission constitute another category of illness which, although rare, can occur during the neonatal period and infancy, and can mimic other conditions causing hypotonia and weakness. Because they are treatable their early diagnosis is very important and may be life saving.

Easy fatigability, weakness, extraocular muscle and bulbar dysfunction are cardinal findings in myasthenia gravis. A transient transplacentally acquired form of the disease, known as transient neonatal myasthenia gravis, is seen in infants born to myasthenic mothers. Symptoms usually appear in the first few hours after birth. Weak suck, diffuse muscle weakness, respiratory muscle weakness, dysphagia and ptosis constitute major symptoms of this condition in the neonate. It appears that the severity and duration of the disease in the mother has no effect on the course of neonatal disease. Namba et al. (1970)<sup>10</sup> reported that 12% of babies born to myasthenic mothers are clinically affected. Severity of symptoms varies widely. Symptoms do not include sensory changes or abnormalities of the pupil. The condition is thought to be a result of passage of antiacetylcholine receptor antibodies through the placenta to the infant. The diagnosis is established by the intramuscular or subcutaneous injection 1 mg of the anticholinesterase drug, edrophonium chloride (Tensilon) or neostigmine (Prostigmine) 0.1 mg/kg.<sup>11</sup> The diagnosis can also be confirmed electrodiagnostically by repetitive nerve stimulation which demonstrates a decrement in the amplitude of evoked motor potentials. Mild form of neonatal myasthenia gravis may be managed by observation alone. However, if there is evidence of involvement of the muscles of swallowing or respiration, then 0.1 mg neostigmine methylsulfate by injection 30 minutes before feeding will improve sucking and swallowing sufficiently to allow feeding. Milder forms can be managed by oral dose of pyridostigmine.

The neonatal persistent form of myasthenia gravis (congenital myasthenia gravis) has much milder symptoms and may go undetected for a year

or two. Juvenile myasthenia gravis resembles the adult form of the disease.

### **Hypotonia Caused by Dysfunction of Neuromuscular Transmission Secondary to Drugs**

Many antibiotics, particularly aminoglycosides, can block release of neurotransmitter at the presynaptic region.<sup>12</sup> This is in contrast to the primary site of blockade in myasthenia, which is the postsynaptic membrane. Although clinical symptoms are usually very mild and may go undetected in antibiotic blockage, it can significantly aggravate a mild form of myasthenia gravis. Calcium may be helpful in treating antibiotic-induced myasthenic crisis. Patients with myasthenia gravis are very sensitive to the neuromuscular blocking effect of curare.

### **Botulism**

The toxin of *Clostridium botulinum* can cause severe generalized hypotonia and weakness. Chemically the toxin acts on the terminal unmyelinated motor nerve fibers where it blocks release of acetylcholine and interrupts transmission of the nerve impulse. Infantile botulism is manifested by constipation, lethargy, and poor feeding. In uncomplicated cases recovery is expected between 3-20 weeks. Botulism should be suspected in any infant with an acute-acquired hypotonia and weakness. Symptoms of intoxication in older children are similar to those seen in the adult form of the disease. It usually begins with nausea, vomiting, and diarrhea followed by neurological symptoms. Although these may include dizziness, dysphagia and speaking difficulty, the predominant manifestations are ocular and consist of blurred vision, diplopia and sluggish pupillary responses. These findings, along with a normal sensory exam are important in establishing a diagnosis. Botulism should be differentiated from Guillain-Barre syndrome, myasthenia gravis, tick paralysis, diphtheria, poliomyelitis, heavy metal intoxication, post-infectious or toxic polyneuropathy. Electromyographic study shows small amplitude, short duration potentials.<sup>13</sup> Repetitive nerve stimulation would reveal decremental response at low rate of stimulation. Type A and Type B spores of *Clostridium botulinum* have been found in the stools of infants with botulism. Treatment of botulism with polyvalent serum is effective if given prior to or shortly after the development of symptoms. Guanidin hydrochloride, which enhances the release of acetylcholine from nerve terminals,

has been used for the treatment of botulism. Symptomatic therapy, which includes respiratory support and nasogastric feedings, constitutes the most important part of the treatment approach.

### **Disorders of Anterior Horn Cells**

Anterior horn cell loss is the most common cause of severe hypotonia with weakness in an infant. Anterior horn cells are motor neurons distributed throughout the length of the spinal cord in anterior gray masses. Progressive infantile spinal muscular atrophy (Werdnig-Hoffman disease) is an inherited degenerative disease involving motor neurons at the spinal cord level. Onset occurs from infancy to age two years. Late onset of disease known as juvenile proximal hereditary spinal muscular atrophy (Kugelberg-Welander) has onset between ages two and seventeen years. The classical early childhood type of spinal atrophy is characterized by proximal muscle weakness, muscle wasting, absence of deep tendon reflexes and marked floppiness from birth.<sup>14</sup> Despite the presence of profound weakness, the baby is alert and shows awareness. Extraocular muscles and facial movements are not initially involved. In the acute form of disease having onset of weakness at birth or in the first few weeks of life, bulbar and respiratory muscle involvement leads to increasing respiratory problems. In 60% of the cases, death occurs before one year of age. The milder form is compatible with survival into the second and third decade.<sup>15</sup> The absence of deep tendon reflexes, a frog-like posture, fasciculations of the tongue, profound weakness, and lack of sensory dysfunction in a child with an intact level of consciousness differentiates this condition from other causes of hypotonia—such as myasthenia gravis, infantile form of muscular dystrophy, infantile botulism and other causes of hypotonia in early life. It can be differentiated clinically from glycogen storage disease type II (Pompe's disease) by the lack of prominent involvement of the heart and lungs. Pathologically, spinal muscular atrophy is characterized by the loss of anterior horn cells and degeneration involving the motor neuron. Electromyographic findings consist of the presence of denervation potentials associated with polyphasia and increased amplitude and duration of action potentials. Histochemical studies of muscle tissue show the feature of denervation atrophy associated with classing of type I and II fibers. Serum CPK is usually normal.



### Hypotonia and Weakness Due to Dysfunction of Peripheral Nerve

Generalized peripheral neuropathy is an uncommon condition in the pediatric age group and can be divided into two general groups: (1) polyneuritis and (2) degenerative diseases affecting peripheral myelin. Post-infectious polyneuritis (Guillain-Barre' syndrome) is the most common neuropathy in childhood and can occur at any age.<sup>16</sup> A rapid onset with predominance of motor weakness in a symmetrical pattern in association with elevated CSF protein are typical findings which support a diagnosis of post-infectious polyneuritis.

Delayed motor development, hypotonia, weakness, absent reflexes, increased CSF protein and varying degrees of slowing of nerve conduction velocity are typical findings in hereditary polyneuropathy, Charot-Marie-Tooth disease, globoid cell leukodystrophy (Krabbe's disease), infantile form of metachromatic leukodystrophy, and the hypertrophic polyneuropathy of Dejerine-Sottas. Diffuse peripheral neuropathy is also seen in Leigh's disease, giant axonal neuropathy, and Riley-Day syndrome. Defective myelination is also seen in a condition known as familial hypomyelinating neuropathy which causes progressive generalized flaccid weakness.<sup>11</sup> Slowing of motor nerve conduction velocities, increased CSF protein, nerve biopsy and muscle biopsy with specific enzyme studies are indicated to differentiate the various etiologies of the chronic slowly progressive polyneuropathies when they are considered as the cause of hypotonia and weakness.

### Arthrogryposis Multiplex

Arthrogryposis multiplex congenita is a syndrome at birth manifested by fixed position of multiple joints. Four general pathologic types have been described: (1) anterior horn cell, (2) peripheral neurogenic, (3) myopathic, and (4) intrinsic disorder of joints and capsules. The patients are usually profoundly weak and hypotonic with decreased range of motion. Although neurogenic arthrogryposis can be caused by a wide variety of disorders of the nervous system at the anterior horn, anterior root, and peripheral nerve level, it is mainly considered to be one of the manifestations of infantile spinal muscular dystrophy from very early in uterine life. Post mortem examination revealed central chromatolysis and gliosis along with neuroglial and anterior horn cell loss. The myopathic type is clinically diffi-

cult to differentiate from the neurogenic type. It has been reported in association with myotonic dystrophy.<sup>17</sup> An increase in CPK, characteristic electromyographic findings and muscle biopsy are helpful in establishing the origin of a myopathic type of arthrogryposis. When the patient has multiple contraction of joints without evidence of anterior horn involvement or myopathy, the possibility of intrinsic joint and capsule or connective tissue disorders should be considered as an etiology.

The workup for hypotonia varies considerably from patient to patient. In some instances, an accurate history and physical examination is adequate. Often, however, an extensive evaluation is necessary. Tests which may be done more or less routinely include: urinalysis, electrolytes, thyroid studies, amino acid screen and serum creatinine phosphokinase. Electrodiagnostic studies, particularly electromyography and nerve conductions, may be helpful but are difficult to perform in infants and require an experienced physician performing them in order to be reliable. Also, in a very few instances are these tests diagnostic. An exception would be the finding of myotonia on EMG. To make an accurate diagnosis of a lower motor unit disease, it is frequently necessary to perform a muscle biopsy. In addition to the usual H&E and trichrome stains, a number of stains utilizing enzyme histochemical reactions should be routinely used in order to obtain maximal information. Muscle biopsy should not be performed in any facility unless these techniques are available along with a physician skilled in interpretation. Support for a central cause for hypotonia may be obtained through a CT scan of the head, lumbar puncture, and EEG. If the clinical situation is suggestive, then urinary screening and enzyme assays for degenerative disorders, edrophonium test for myasthenia or stool culture for clostridia botulinum is indicated.

In conclusion, hypotonia in childhood is a frequent manifestation of neurologic dysfunction for which extensive evaluation is indicated. A specific diagnosis can often be reached which may have far reaching prognostic and therapeutic implications. A further benefit is that accurate genetic information can be made available to the family of these patients.

### REFERENCES

1. Rowland, L. P., Layzer, R. B. Muscular dystrophy. Atrophies and related diseases: In: Baker A. B., Baker

1. L. H., eds., *Clinical neurology*, Vol. 3. Philadelphia: Harper & Row, 1982:1-109.
2. Paine, R. S. The future of the "floppy infant": a follow-up study of 113 patients. *Dev. Med. Child Neurol.* 1963; 5:115-24.
3. Volpe, J. J. Hypoxic-ischemic encephalopathy, neuropathology and clinical aspects. In: Volpe J. J., ed., *Neurology of the newborn*. Philadelphia: W. B. Saunders, 1981:141-79.
4. Curlless, R. G., Nelson, M. B., Brummer, F. Histological patterns of muscle in infants with developmental brain abnormalities. *Dev. Med. Child Neurol.* 1978; 20:159-66.
5. Shy, G. M., Magee, K. R. A new congenital non-progressive myopathy. *Brain* 1956; 79:610-21.
6. Shy, G. M., Engel, W. K., Somers, J. E., et al. Nemaline myopathy: a new congenital myopathy. *Brain* 1963; 86:793-810.
7. Spiro, A. J., Shy G. M., Gonatas, N. K.: Myotubular myopathy, persistence of fetal muscle man adolescent boy. *Arch Neurol* 1966; 14:1-4.
8. Harper, P. S. Congenital myotonic dystrophy in Britain. I. Clinical aspects. *Arch. Dis. Child* 1975; 50:505-13.
9. Harper, P. S., Dyken, P. R. Early onset dystrophia myotonica. Evidence supporting a maternal environmental factor. *Lancet* 1972; 2:53-5.
10. Namba, T., Brown, S. B., Groh, D. Neonatal myasthenia gravis: report of two cases and review of the literature. *Pediatrics* 1970; 45:488-504.
11. Fenichel, G. M. The newborn with poor muscle tone. *Semin Perinatol* 1982; 6:68-88.
12. Wright, E. A., McQuillen, M. P. Antibiotic-induced neuromuscular blockade. *Ann., N. Y. Acad. Sci.* 1971; 183:358-68.
13. Clay, S. A., Ramseyer, J. C., Fishman, L. S., Sedgwick, R. P. Acute infantile motor unit disorder. *Arch. Neurol.* 1977; 34:236-43.
14. Hausmanowor-Petrusewicz I. Clinical types of infantile and juvenile spinal atrophy. In: Hausmanowor-Petrusewicz I, ed, *Spinal muscular atrophy*. Springfield, VA: National Technical Information Service, 1978: 19-27.
15. Munsat, T. L., McNeal, D., Woods, R., Fowler, W., Pearson, C. M. Neurogenic muscular atrophy of infancy with prolonged survival. The variable course of Wernig-Hoffman disease. *Brain* 1969; 92:9-24.
16. Carroll, J. E., Jedzmac M., Guggenheim, M. A. Guilaín-Barre' syndrome. *Am. J. Dis. Child* 1977; 131:699-700.
17. Sarnat, H. B., O'Connor T., and Byrne, P. A.: Clinical effects of myotonic dystrophy on pregnancy and the neonate. *Arch. Neurol.* 1976; 33:459-465.





# Radiology Perspective:

## Detection of Breast Cancer in the Asymptomatic Woman

James E. McDonald, M.D.\*

The American Cancer Society estimates that one woman dies from breast cancer every 15 minutes. One out of every 11 women will develop breast cancer during her lifetime. Breast cancer is the leading cause of cancer death in women, the most common malignant neoplasm in women, and is the leading cause of death from all causes of women 40-44 years old. During 1983, breast cancer will claim 33,000 lives in the United States.<sup>1-4</sup>

In view of these grim statistics, the knowledge is heartening that the means are available to significantly reduce the morbidity and mortality of breast cancer. Employing physical examinations and mammography, the Breast Cancer Detection Demonstration Project (BCDDP) completed in 1981 underscored the efficacy of annual screening examinations in the recognition of early malignancies. Almost half of the tumors detected in the project were in asymptomatic women without positive physical findings. Mammography alone was responsible for the positive findings in these patients.

**CASE 1: BL.** A 37-year-old bank executive underwent mammography as part of the BCDDP (Figure 2). The concomitant breast examinations were thought to be unremarkable.

Mammography demonstrated an irregular dominant lesion in the upper outer quadrant of the left breast. Subsequent biopsy proved the lesion to represent a small infiltrating carcinoma. All nodes were negative.

### DISCUSSION

The American Cancer Society has recently joined the American College of Radiology in recommending annual mammography.<sup>6</sup> The Society's guidelines are outlined below (see box page 443).

Breast cancer can be diagnosed radiologically at an extremely early and highly curable stage. Mammography alone was responsible for positive findings in 41.6% of the cancers detected in the BCDDP. The American Cancer Society has expressed concern that unwarranted fears about the

danger of radiation associated with mammography might ultimately lead to an increase in deaths from breast cancer.<sup>7</sup>

In 1976, after reports exaggerating the risks of mammography were widely disseminated in the media, the use of this potentially life-saving technique declined. Those with a negative view of mammography argued that, because the risk of the technique was unknown, it might be very large. Some predicted, with no scientific justification, an epidemic of mammography induced cancers in years to come.

Predictions of risks for developing breast cancer from exposure to radiation have been formulated and are based on the experience of 3 groups of women previously exposed to high levels of radiation. These groups include: survivors of the Hiroshima and Nagasaki atomic bombings; patients who had undergone repeated fluoroscopies for evaluation of therapy for tuberculosis; and a third group irradiated for mastitis. The estimated risk of mammography has been calculated to be approximately proportional to the radiation dose at a rate of 6-7 excess cancers per rad per million women per year of life following a minimum latent period of 5-10 years. This risk assumes exposure at age 20 or older. In the BCDDP, where modern xeroradiographic techniques were used, the mid breast radiation dose for a typical mammography exposure averaged 0.37 rads.<sup>7,8</sup>

The young female breast has a much higher radiation sensitivity. A significant body of data suggests radiation exposure after age 35 has far less potential for the induction of breast cancer than does radiation exposure in younger age groups. In the study of women who had fluoroscopy and the atomic bomb survivors, the risk of radiation induced breast cancer was observed to decrease at age as exposure increased. The risk was greatest if exposure occurred during the second decade and was considerably lower in women over 40. In the post partum mastitis study, at the lowest dose level (0-9 rad), there was no difference in the number of breast cancers with women who were not exposed to radiation and those who were.<sup>7</sup>

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At roughly the same time that realistic estimates of radiation hazards in mammography were coming to light, concerted efforts to determine specific risk factors for breast cancer were being concluded. Despite these efforts to determine specific risk factors for breast cancer in the general population, the means of identifying substantial numbers of "high risk" women have not materialized. Three-quarters of all breast cancer cannot be attributed to any known specific cause. The American Cancer Society has concluded that "even if more data are amassed to provide a better description of the truly high risk woman, it seems likely that such women will constitute only a small proportion of total breast cancer cases. Women should be taught breast self-examination and encouraged to have periodic mammograms."<sup>9</sup>

Until the BCDDP the most significant clinical trial of cancer screening was the Health Insurance Plan (HIP) of Greater New York Screening Pro-

gram of the 1960's. Employing annual physical and mammography screenings in a controlled clinical trial, the study showed a 30% decrease in mortality from breast cancer at the 10-year level in women over 50. While findings suggestive of benefits were observed in the group of women aged 40 to 49 at entry, statistically significant findings could not be demonstrated.<sup>7</sup>

In the several years following publication of the HIP data the acceptance of mammography by the medical profession was surprisingly slow. Also during that period techniques were developed which improved diagnostic capabilities of mammography considerably while simultaneously diminishing radiation doses to the breast.<sup>7</sup> In response to these developments the American Cancer Society and the National Cancer Institute implemented the Breast Cancer Detection Demonstration Project (BCDDP) to disseminate the techniques of early detection of breast cancer to

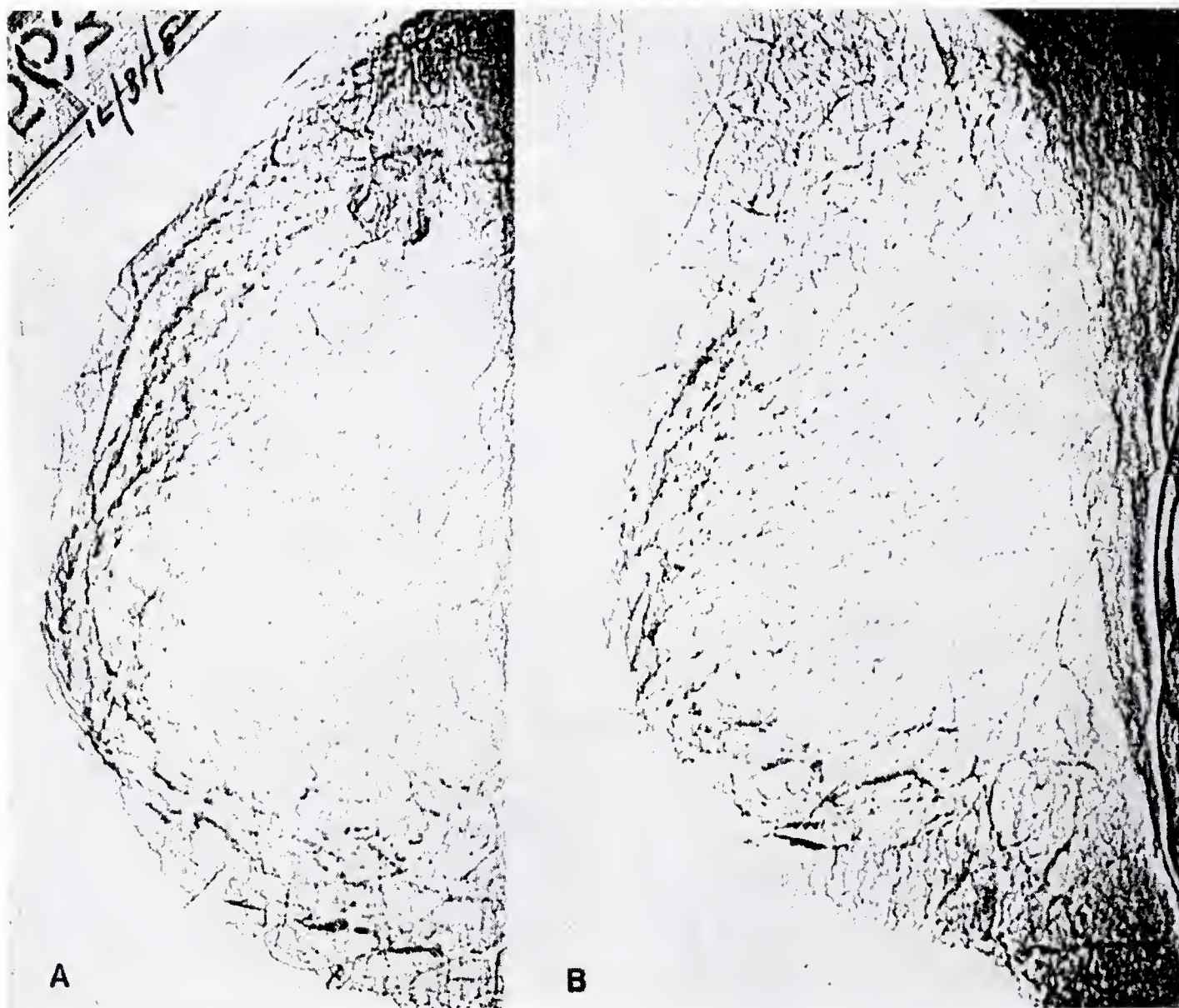


Figure 1. A and B. Lateral (A) and craniocaudal (B) xeromammograms of the left breast.



both the public and the medical profession.<sup>5</sup>

By 1975 there were more than 180,000 women enrolled in the program. The participants were screened for breast cancer on an annual basis with a combination of medical history, physical examination, and mammography. More than half of the women entering the program attended all 5 screenings. Screening was completed in March of 1981.<sup>5</sup> Overall, less than 20% of cancers detected within the BCDDP had positive nodes. This represents a substantial improvement over other screening programs where an average of 53% of all cancer cases have had positive nodes. Breast cancer, when localized to the breast has an 85% five-year survival rate as compared with 56% when the axillary nodes are involved. The lower proportion of positive nodes in the BCDDP appears due in part to early detection of breast cancer as a result of periodic screening with mammography and physical examination.<sup>5</sup>

MAMMOGRAPHY ALONE WAS RESPONSIBLE FOR POSITIVE FINDINGS IN 41.6% OF THE CANCERS DETECTED IN THE BCDDP. This relative contribution of mammography alone compared dramatically with only 8.7% for physical examination in the absence of positive mammographic findings. The relative contribution of mammography alone was impressively high in the detection of smaller cancers (less than 1 cm): 59% for non-infiltrating cancers and 52.6% for infiltrating cancers.<sup>5</sup>

### SUMMARY

Mammography alone detected 41.6% of the cancers discovered in a recently completed American Cancer Society-National Cancer Institute study involving screening for breast cancer. The American Cancer Society has recently joined the American College of Radiology in recommending annual mammography for all women over 40. The American Cancer Society has emphasized the following facts:

- "(1) The only recognized approach to saving more lives from breast cancer is early diagnosis, hopefully before the cancer becomes large enough to palpate.
- (2) Mammography is the only means available today to detect cancer at such an early stage.
- (3) New equipment has reduced radiation exposure to extremely low levels that are only a small fraction of the dosage used 10 years ago."<sup>10</sup>

In the 1982 statement of its position on mammography the American Cancer Society concluded: "Just as it is important to avoid needless risks, it is imperative to avoid needless cancer deaths due to delayed diagnosis and an unreasonable fear of mammography. The medical profession and the public must recognize that the proper application of mammography can save lives."<sup>7</sup>

### FOOTNOTE

The author gratefully acknowledges the contribution of the illustrative case by Dr. Terrence A. Oddson, Radiology Associates, P.A. and the secretarial support of Elizabeth Blackwell, Radiology Associates, P.A.

### REFERENCE

1. Gallager, H. S., Leis, H. P., Jr., Synderman, R. K., and Urban, J. A.: *The Breast*. St. Louis: C. V. Mosby Company. (in press)
2. Schottenfeld, D.: *Epidemiology of Breast Cancer*. Clin. Bull. 5:135-143, 1976.
3. Seidman, H.: *Statistical and Epidemiological Data on Cancer of the Breast*. American Cancer Society, New York, 1972.
4. Silverberg, E., and Halleb, A. E.: *Cancer Statistics 1975-25 year cancer survey*. CA 25:2-20, 1975.
5. Baker, L. H.: *Breast Cancer Detection Demonstration Project: Five year summary report*. CA 32: No. 4, 1982.
6. American College of Radiology Bulletin 39: No. 9, 1983.
7. Holeb, A. I., ed: *Mammography 1982: A statement of the American Cancer Society*. CA 32: No. 4, 1982.
8. Advisory Committee on the Biological Effects of Ionizing Radiations. National Academy of Sciences-National Research Council, Division of Medical Sciences, 1972.
9. Seidman, H., Steellman, S. D., and Muchinski, M. H.: *A Different Perspective on Breast Cancer Risk Factors: Some Implications of the Non-attributable Risk*. CA 32: No. 5, 1982.
10. Holleb, A. I.: *Restoring Confidence in Mammography*. CA 26: 376-378, 1976.

### NEWLY REVISED GUIDELINES ON MAMMOGRAPHY FROM THE AMERICAN CANCER SOCIETY

- #1 Monthly breast self-examination starting at age 20.
- #2 Physical examinations of the breasts by a physician every 3 years from the age of 20 to 40 and every year thereafter.
- #3 A baseline mammogram from the age of 35 to 40 followed by the annual or biennial mammograms from ages 40 through 49 and annual mammograms from 50 on.

# Update in Dermatology:

## The Patch Test

Jere D. Guin, M.D.\*

The patch test, used in the diagnosis of allergic contact dermatitis, is an attempt to reproduce that condition in miniature by applying appropriate concentrations of suspected allergens to intact skin. This test method is often confused with the scratch test used for Type I (IgE-mediated) reactions. In fact, it is not uncommon to hear of persons who have had patch tests applied for only twenty minutes to rule out hair-dye sensitivity. However, allergic contact dermatitis is a cell-mediated or delayed immune reaction, so tests are read from one to five days after application.

Patch tests can be helpful not only in confirming a diagnosis of contact dermatitis, but they can sometimes be used to show why a patient did not respond properly to a topical medication, and even which ingredient is the problem so that the patient can avoid it in other products. I have seen long-standing "neurotic" problems disappear when the underlying allergic nature of the problem was finally uncovered.

Presence (or absence) of a reaction, however, does not prove (or disprove) allergy. Both false negative and false positive readings occur, with irritation being the principal cause of the latter. Patch test materials therefore must be nonirritating and nonsensitizing. This can be a problem since there are allergens that are also irritants that may require concentrations near or beyond the threshold for irritation to reliably reproduce an allergic response. Some persons are more easily irritated than others, so proving that a patch test material is safe requires that it be tried in a sufficiently large, representative population. The average physician as a practical matter, cannot do this, and must rely upon commercially available material.

In industrial cases, one is sometimes asked to do patch testing with unknown chemicals or with a known chemical that is an irritant. This can not only cause a false positive reading, but it can cause serious irritant reactions in the patient, or cause him to become allergic to that chemical.

Petrolatum is the most common vehicle used for patch test materials because it is relatively nonirritating and nonsensitizing. However, some allergens cannot be incorporated in that material, and other vehicles such as water, alcohol, olive oil, etc., are used to suspend the allergen. For most substances, the proper concentration and vehicle have been previously determined by experimentation, and this information is available from a number of sources.<sup>1-6</sup>

Today, mixtures of related chemicals are commonly used for screening purposes. Here multiple antigens are combined in the same base so that one can screen for sensitivity to many more antigens at one time. When a positive reaction is found, one can then test the patient to the proper concentration of each component to determine the exact material to which he or she is allergic.

### Methodology:

Patch testing methods have recently been reviewed by Adams.<sup>7</sup> Testing can be done with either open or closed tests, depending upon the potential for allergy or irritation. Sometimes a closed test involves nothing more than covering the antigen with an adhesive plaster. This can greatly increase the inflammatory response, however, so the open method is often used for plant allergens and other materials that are not considered standard.

While closed patch testing was formerly done by placing a small amount of the antigen on the gauze center of an adhesive plaster, this is seldom done today because so many persons react to the tape. Most dermatologists use either a filter paper disc fixed to a polyethylene-coated aluminum backing (Al-test)<sup>8</sup> or a small aluminum disc (Finn chamber)<sup>9</sup> 8 mm in diameter and 0.5 mm deep, mounted on a strip of hypoallergenic paper tape (Scanpor). The compact "chambers" are ideal for applying many tests in a small space. Liquid allergens can be applied in Finn chambers by adding a filter paper disc punched out with a standard paper punch, and fixed in place with a very small

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amount of petrolatum (Vaseline). At-test patches already have a filter paper disc attached.

Patch tests are generally removed at 48 hours. Tests are then read that day, the following day, or even multiple times. For patients who must drive long distances, patch tests are usually removed at 48 hours, and at 72 hours (after application of the test). Since the best time for reading is often a day or more after the tests are removed, the test site must be properly marked so that there is no doubt about which substance is responsible for any positive response.

A patient can be tested to many cosmetics "as is", but one must be careful not to do this with soaps, cleansing creams, solvents and other irritants. Here, experience and judgment are invaluable. For example, make-up can generally be applied under occlusion as is, but mascara is irritating (it is seldom sensitizing). Concentration of the allergic substance may be very low, however, and a patch test on the back may not reproduce a mild contact dermatitis of the eyelids. Concentrations of patch test materials used on the back may exceed the concentration found in the original product provided that level is neither irritating nor sensitizing. Interpretation of tests to cosmetics also requires some understanding. For example, most allergic reactions to cosmetics are probably due to fragrance ingredients or preservatives, and these reactions are generally mild. Because the skin of the face absorbs much better than the back, a test may be negative on the back, but positive on the face.

In some situations a usage test is done rather than a patch test. Usage tests are repeated application of a suspected cosmetic perfume or medication to a limited area of skin suitable for testing. The antecubital area is the site most commonly used, but in the case of perfumes, the neck is more reliable. Usage tests can also produce contact urticaria which occurs a few minutes rather than hours or days later. The time that an eruption appears can therefore be very important in interpreting the significance of that response.

#### **Interpretation:**

Interpretation of patch tests recommended by the International Contact Dermatitis Group can be found in table I.

Even when reactions occur, interpretation is tricky. Irritation and pressure can cause false positive reactions, and pustular reactions may occur

particularly with tests to metallic salts. Mismatched test sites can cause unbelievable confusion. When large numbers of antigens are positive simultaneously, test sites sometimes show disproportionately strong reactions, and even irritants may cause a reaction more easily, particularly near the positive test site.<sup>10</sup> This leads to a reactive state called the "angry back" syndrome. In that state, positive tests are more likely to be nonspecific. One must allow such reactions to subside, and follow up with tests to individual allergens. Repeat tests to those substances that caused weaker responses are often negative.

False negative reactions may be due to improper antigen concentration, an inappropriate vehicle, readings that are performed too early or too late, testing done when the patient is on systemic corticosteroid therapy (40 mg. or more per day), failure to do phototesting in cases of photoallergic reactions, and generally where the original conditions are not reproduced. An example of the last situation is shoe dermatitis where chronic contact with a low grade allergen along with trauma and moisture are difficult to reproduce with patch testing.

Not all positive reactions are relevant, and any positive response should be correlated with a probable history of exposure. Once this is done, the patient should be given some reasonable idea of the sources of that chemical so that he or she can be aware of the potential hazard in common household materials that contain that allergen. Fortunately, cosmetic ingredients are now listed on the label, but the patient has to be warned to avoid any offending chemicals by the name that would be found on the label as many chemicals have numerous synonyms and trade names. The Cosmetic, Toiletry and Fragrance Association has published a dictionary<sup>11</sup> that lists the chemical ingredients under the name adopted by the industry as the standard generic term to be used on labels, so patients with cosmetic allergy must be given problem ingredients in that terminology.

Patch testing can also cause complications including irritation, allergy to the tape or even the patch used, hypo- and hyperpigmentation, flares of contact dermatitis elsewhere, the Koebner phenomenon in some skin disease (e.g. psoriasis or lichen planus) and even an anaphylactoid reaction. With all its caveats, patch testing is an invaluable aid in the diagnosis and treatment of skin disease.

**Table I**

?	Doubtful reaction; faint erythema only.
+	Weak (nonvesicular) positive reaction; infiltration, possibly papules.
++	Strong positive (vesicular) reaction; erythema, infiltration, papules, vesicles.
+++	Extreme positive reaction; bullous reaction.
—	Negative reaction.
IR	Irritant reaction (various types).
NT	Not tested.

Terminology used for reading of patch tests by the International Contact Dermatitis Group as listed by Adams.<sup>7</sup>

**REFERENCES**

1. Fisher, Alexander A.: *Contact Dermatitis*, Ed. 2. Philadelphia, Lee and Febiger, 1983.
2. Cronin, E.: *Contact Dermatitis*. Churchill, Livingston, Edinburgh, London, New York, 1980.

3. Adams, R. N.: *Occupational Skin Disease*. Grune and Stratton, New York, 1983.
4. Foussereau, J. Benzra, D., Maibach, H.: *Occupational Contact Dermatitis: Clinical and Chemical Aspects*. Munksgaard, Copenhagen, 1982.
5. Schwartz, L., Tulipan, L., Birmingham, D. J.: *Occupational Diseases of the Skin*, Ed. 3. Philadelphia, Lee and Febiger, 1957.
6. Fregert, S., Bandmann, H. J.: *Patch Testing*. Springer-Verlag, New York, 1975.
7. Adams, R. N.: Patch testing—a recapitulation. *J. Am. Acad. Dermatol.* 5:629-643, 1981.
8. Bandmann, H. J., Fregert, S.: *Epicutantestung*. Springer-Verlag, Berlin Heidelberg, New York, 1973.
9. Pirila, V.: Chamber test versus patch test for epicutaneous testing. *Contact Dermatitis* 1975: 1:48-52.
10. Bruynzeel, D.: Excited Skin Syndrome and Spillover—Presentation at the Short Report Session, North American Dermatitis Group. Chicago, December 1, 1983.
11. Estrin, N. F. (ed): *CFTA Cosmetic Ingredient Dictionary*, Ed. 3. Washington, D. C., Cosmetic, Toiletry and Fragrance Assoc. 1981.







## EDITORIAL

# Syncope in the Elderly

Alfred Kahn, Jr., M.D.

Lewis A. Lipsitz has reviewed Syncope in the Elderly in *Annals of Internal Medicine* (Volume 99, page 92, July, 1983). Articles such as this ought to be welcomed by practicing physicians—much of the medical literature at the present time is devoted to clinical and basic research involving narrow, limited research perspectives. These are invaluable and represent progress in medicine, but from time to time some of the more fundamental, broad perspective, clinical problems deserve recognition. Every senior medical student has a pretty good idea about syncope, but syncope as a symptom which might represent a variety of diseases is not often considered in an orderly fashion by practicing physicians.

Syncope in elderly people is not uncommon and may represent a potentially serious disorder. The author cites one study in which syncope in middle aged individuals was followed by a 5% mortality figure in three to nine months. He also cited another series of a one-year mortality of 6% in undiagnosed patients, 6% in noncardiovascular cases, and 19% in cardiovascular cases.

Lipsitz states that in 50-60% of elderly patients with syncope no diagnosis is ever established—and syncope tends to recur in 13-25% of the individuals.

One of the problems in studying the causation of syncope is that it is difficult to establish an exact causal relationship between disease and syncope—according to Lipsitz. For example, a patient may have heart disease or some neurologic disorder, but this does not necessarily establish a relationship between the underlying disorder and the syncope. It is said in this article that most individuals require a blood flow of more than 25-30 ccs of blood per minute per 100 grams of brain tissue to avoid syncope or symptoms of ischemic brain disease. He goes on to point out that in many individuals who are compensated

the figure of 25-30 ccs per minute per 100 grams of brain tissue is exceeded unless the individual developed some complicating factor as congestive heart failure which might reduce the blood flow and suddenly precipitate symptoms of cerebral anemia. Apparently there are many cases of cerebral vascular disease who are close to the borderline with regard to adequate blood flow but who do not develop syncope or other symptoms because complicating factors which would further reduce the cerebral perfusion do not occur. Lipsitz warns physicians that syncope may be the presenting symptom of disease or stress in elderly patients—disorders which are not ordinarily manifested by syncope such as pneumonia, myocardial infarction, etc. In the older age groups, syncope is likely to occur when disease is present because of the loss of compensatory mechanisms which keep an adequate cerebral blood flow continuously; carotid body disease is cited as an example—in that the carotid body might set up a reflex to increase the cerebral blood flow in certain disorders in which there is a marginal level of blood flow to avoid syncope; in the elderly group, if the carotid body might happen to be diseased, this does not occur. Baroreflex sensitivity is also said to decrease with age. Lipsitz also states that the heart rate does not go up in response to lack of oxygen and exercise and other stimuli as it does in younger people; this suggests to him that there is a decreased sensitivity of the aging heart to adrenergic stimulation. Still another background problem which sets the stage for syncope in the aging is loss of some of the adaptive extracellular volume regulation mechanisms. If the extracellular volume diminishes, an individual might have syncope much easier than if the extracellular volume was normal.

Lipsitz states that there are a number of cardiac disorders which may be associated with syncope.

He says that aortic stenosis and hypertrophic cardiomyopathy often present as syncope. Aortic valvular disease may produce syncope. Myocardial dysfunction of various sorts can decrease the cardiac output and lead to syncope, as can rhythm abnormalities. The latter disorder may consist of tachycardia or bradycardia. These rhythm disorders may or may not be associated with a history of arterio-sclerotic heart disease. The author states emphatically and repeatedly in this discussion that presence of these various disorders does not lend a causal relationship between the disorder and syncope; for example, he states that most cardiac arrhythmias are not associated with syncope; he does not feel the Holter 24-hour monitor test is a very valuable investigative tool in syncope unless syncope and arrhythmia occur simultaneously. Cardiac conductive disturbances are associated with syncope; in these cases temporary heart block probably occurs. The so-called sick sinus syndrome may manifest itself as syncope. The sinus node is implicated in bradycardia and tachycardia, both of which may lead to syncope.

Abnormal blood pressure may lead to syncope. Some individuals are volume depleted and faint—as in bleeding or diuresis. Orthostatic hypotension is reported to be fairly common in the elderly patients; it can be due to drugs, particularly to hypotensives; it can be due to central nervous system disorders such as Shy-Drager syndrome or Parkinsonism or cerebral infarction; it can be due to peripheral or autonomic neuropathies; some cases are idiopathic. Carotid sinus hypersensitivity should be sought in any patient who faints. One series of cases is cited by the author in which 103 elderly individuals had a fall in systolic blood pressure of 37 mm of mercury after carotid massage whereas 106 healthy soldiers had an average fall of 5 mm of mercury after sinus massage. Syncope may follow coughing, swallowing, micturition, and defecation. This has been extensively studied in the past and reported by various authors, including the current review. Lipsitz says that vasovagal syncope is the commonest cause of syncope in young people, but he states that its prevalence in elderly patients is unknown.

Two other causes of syncope in the elderly are

abnormal blood composition, which is obvious, and cerebral disorders as vascular insufficiency and seizures. It is important to understand, according to the author, that only 50% of epileptic patients have abnormal electroencephalograms and, conversely, the presence of an abnormal EEG does not necessarily prove that it is the cause of the seizure.

To find the cause of syncope, the author recommends a good history and physical examination as a preliminary. He particularly recommends noting an irregularity of the pulse or elevation of the blood pressure. If the blood pressure is below 90/60, one should be suspicious of some hidden cardiovascular cause of syncope. He recommends checking for orthostatic hypotension and listening for carotid bruits. Heart murmurs, of course, are important. He emphasizes other facets of the examination, but these are some of the highlights. Lipsitz implies that one should be careful to tailor laboratory tests to one's suspicion as to the cause of the syncope. He feels that electroencephalography is not very helpful in many patients, as noted above. The echocardiogram and phonocardiogram may be helpful in discovering heart disease if there is reason to believe it exists. He feels the CT Brain Scan is of value in the diagnosis of tumors, infarcts, and hemorrhages.

From a therapeutic point of view, one has to first consider the cause before treatment can be instituted. The removal of drugs which might be causing syncope is of help. If there is reason to suspect tachyarrhythmia, appropriate drugs can be given. Pacemaker treatment is recommended for severe bradycardia. Lipsitz recommends necessary surgery in some situations for the treatment of syncope in elderly patients; he states that an elderly patient with syncopal aortic stenosis may be a relatively good risk for surgery, and he goes on to state that the risk of repeated episodes of syncope in some of these diseases may be more damaging from a mortality point of view than the syncopal risk.

This is a well-written, thoughtful review of syncope in the elderly.





## "From Other Years"\*

### CITY HOSPITAL

There is no city of equal size and corresponding importance in the United States, that is not better equipped with hospital facilities than Little Rock. Case after case has been reported in our daily papers, where the city physician has been helpless, because of inadequate means in caring for the sick.

We have, thanks to the untiring energy of one or two men, a free dispensary in connection with the Arkansas Industrial University, poorly supplied with medicines and surgical appliances, with no beds and kept up only by persistent efforts of the medical faculty. Such a condition of things does not speak well for a people usually prompt and

liberal in charitable endeavors.

The county hospital accommodates only residents of Pulaski County, it is not available in case of accident, when prompt attention and operative measures are necessary; and the resident physician however desirous he may be of caring for all, is hampered by restrictions which prevent the institution being available as an emergency hospital.

It is the duty of the profession to call the attention of the charitable associations to this condition of affairs, and with a long pull and a strong pull we may have a hospital commensurate with the needs of the city.

From the University of Arkansas for Medical Sciences Library, History of Medicine/Archives.



# keeping up

**Category 1**  
**Continuing Medical Education**  
**Programs Available in**  
**Arkansas**

#### DIABETIC UPDATE

*April 7, 8:00 a.m.-2:00 p.m., Hilton Inn, Little Rock. Sponsored by Baptist Medical Center. Six hours Category I credit. \$10 fee includes lunch.*

#### UPDATE OF DEPRESSION:

##### DIAGNOSIS AND TREATMENT

Presented by S. H. Preskorn, M.D., Associate Professor of Psychiatry, Kansas University, *April 12, 7:00 p.m.-9:00 p.m., Baker Conference Room, Washington Regional Medical Center, Fayetteville. One and one-half hour Category I credit. No fee.*

#### SURGICAL THERAPY OF OBESITY

Presented by Edward E. Mason, M.D., Chief of Surgery, University of Iowa, Iowa City, Iowa, *April 17, 7:00 p.m., Education Building, Baxter County Regional Hospital, Mountain Home. Two hours Category I credit. No registration fee.*

#### SLEEP DISORDERS

Presented by Edgar A. Lucas, Ph.D., *April 28, UAMS Education II Building. Approximately 7 hours Category I credit. Registration fee \$50. No other information available.*

### RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

#### EL DORADO — AHEC-SOUTH ARKANSAS

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.  
*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

#### FAYETTEVILLE — AHEC-NORTHWEST

*Medicine Teaching Conference*, first, third and fifth Thursday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

#### FAYETTEVILLE — VA MEDICAL CENTER

*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.  
*Pathology Conference*, second Thursday, 1:00 p.m., Conference Room.  
*Peer Exchange*, April: "Nephrology"; May: "Hematology".

#### FORT SMITH-AHEC

*Cancer Conference*, each Tuesday, 12:00 noon, Fourth Floor Conference Room, Sparks Regional Medical Center.

#### JONESBORO — AHEC-NORTHEAST

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.  
*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.  
*Monthly Perinatal Conference*, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Weekly Medical Lecture Series*, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.  
*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Arkansas Methodist Hospital CME Conference*, last Friday, 7:00 a.m., AMH, Paragould.

#### LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Second Floor Classroom.  
*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Second Floor Classroom.  
*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Polly Thomas Dining Room.  
*Infectious Disease Conference*, second Wednesday, 12:00 noon, Second Floor Classroom.  
*Pediatric Pharmacology Conference*, third Wednesday, 12:00 noon, Second Floor Classroom.  
*Problem Case Conference*, each Thursday, 12:00 noon, Second Floor Classroom.  
*Primary Care Seminar and Case Presentation*, each Friday, 12:00 noon, Second Floor Classroom.

#### LITTLE ROCK — BAPTIST MEDICAL CENTER

*Surgery Conference*, each Tuesday, 8:00 a.m. to 9:00 a.m., Conference Room #1.  
*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.  
*Grand Rounds*, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.  
*Cardiology Conference*, fourth Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #1.  
*Cardiopulmonary Resuscitation Course*, fourth Thursday, 6:00 p.m. to midnight, Shuffield Auditorium. Six hours Category 1 credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

#### LITTLE ROCK — ST. VINCENT INFIRMARY

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.  
*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E-159, Education Wing.  
*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E-159, Education Wing.  
*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory.  
*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.  
*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E-159, Education Wing.  
*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.

#### LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

*Ophthalmology Morning Conference*, each Monday, Wednesday, and Friday, 7:30 a.m., ED II G/104a.  
*Orthopaedic Fracture Conference*, each Tuesday, 7:00 a.m., ED II G1/135.  
*Medicine Research Conference*, each Tuesday, 8:00 a.m., ED II 8/105.  
*Orthopaedic Grand Rounds*, each Tuesday, 10:00 a.m., ED II G1/135.  
*Medicine-Pathology Conference*, each Wednesday, 12:30 p.m., 3E06.  
*GI-Radiology Conference*, each Wednesday, 8:00 a.m., Radiology Conference Room.  
*Neuro-Radiology Case Conference*, each Wednesday, 4:00 p.m., MI/293.  
*Medicine Grand Rounds*, each Thursday, 12:00 noon, Child Study Center Auditorium.  
*GI-Problem Case Conference*, each Thursday, 3:30 p.m., 3D29.





## PERSONAL AND NEWS ITEMS

### **DR. TAYLOR WINS FIRST PRIZE**

Dr. C. Herbert Taylor, Jr., of West Memphis won first prize in the color category of a photography contest sponsored by "M.D." magazine and Minolta. Five hundred physicians submitted over 2,000 photographs for the contest.

### **DR. PETRINO IN SPRINGDALE**

Dr. Robert A. Petrino has joined Dr. John Kendrick at the Arkansas Surgical Clinic in Springdale.

### **DR. PANETTIERE SPEAKS**

Dr. Frank J. Panettiere of Rogers presented the January continuing medical education program at Baxter County Regional Hospital. The topic of Dr. Panettiere's presentation was "Practical Aspects of Office Chemotherapy."

### **DR. CAMPOS LOCATES**

Dr. Louis Campos has opened the Ozark Family Medical Clinic in Agnos (Fulton County).

### **DR. DILLARD PRESIDENT**

Dr. Daniel C. Dillard of Little Rock has been elected president of the Pulaski County Academy of Family Practice for 1984 and 1985.

### **DR. DEFAZIO IN TEXARKANA**

Dr. John V. DeFazio, Jr., has joined the Department of Family Practice at Southern Clinic in Texarkana.

### **DR. MATTHEWS RECERTIFIED**

Dr. Joe W. Matthews of Little Rock has been recertified as a diplomate of the American Board of Allergy and Immunology, a conjoint board of the American Board of Internal Medicine and the American Board of Pediatrics.

### **DR. WONG LOCATES**

Dr. David Wong has begun the practice of adult and pediatric Urology at Medical Arts Building on 70 Highway West in DeQueen.

### **DR. ARMSTRONG SPEAKS**

Dr. James Armstrong recently participated in the Berkeley Health Program at C. D. Franks Intermediate School in Ashdown. Dr. Armstrong talked on lungs and directed a dissection of beef lungs.

### **DR. SULIEMAN MOVES**

Dr. J. Samir Sulieman, formerly of North Little Rock, has joined the Jacksonville Specialty Clinic on Braden Street.

### **DR. SPADES RECERTIFIED**

Dr. S. A. Spades has been recertified by the

American Board of Family Physicians.

### **DR. WOLFE JOINS COOPER CLINIC**

Dr. Michael S. Wolfe, an Orthopaedic Surgeon, has joined Cooper Clinic in Fort Smith.

### **DR. GRUBBS OPENS OFFICE**

Dr. Danny Grubbs has opened an office for the practice of Internal Medicine at 3100 Apache Drive in Jonesboro.

### **PHYSICIANS HONORED**

Drs. Milton Hughes, F. M. "Bud" Henderson and J. Wayne Buckley of Pine Bluff were presented awards for exterior improvements made to their respective buildings. The awards were given by the Pine Bluff/Jefferson County Chamber of Commerce.

### **DR. WELLBORN LOCATES**

Dr. James C. Wellborn, Jr., formerly of Little Rock, has joined the Stuttgart Medical Clinic for the practice of General Surgery.

### **DR. MILTON HUGHES CHIEF**

Dr. Milton Hughes of Pine Bluff is the newly-elected chief of staff at Jefferson Regional Medical Center.

### **DR. DORMAN LOCATES**

Dr. Robert A. Dorman, an Internist, has opened an office at 2850 Twin Rivers Drive in Arkadelphia.

### **DR. FORESTIERE SPEAKS**

Dr. A. J. Forestiere of Harrisburg spoke at a meeting of The Progressive Century Club. His topic was United States Involvement in World Affairs. Dr. Forestiere is Chairman of the National General Foreign Policy of the American Legion.

### **DR. RASCH ELECTED**

Dr. James R. Rasch of Little Rock has been elected chief of staff of the Baptist Medical Center. Dr. Hal R. Black, Jr., is vice chief of staff. Drs. Fay Sloan, Tom Smith, C. E. Ballard, Jack Blackshear, James D. Studdard, B. Richard Johnson, Clyde Glover and Hugh Burnett were elected to the Medical Center Executive Committee.

### **TEXARKANA GAINS PHYSICIANS**

Dr. B. Kent Ulrich and Dr. Jack H. McCubbin have joined The Collom & Carney Clinic Association in Texarkana. Dr. Ulrich specializes in Oncology and Hematology and Dr. McCubbin specializes in Obstetrics and Gynecology.

# **DRS. TAYLOR AND HERNANDEZ MOVE**

Drs. Herbert Taylor and Jacinto Hernandez, formerly of West Memphis, have opened a clinic at Marion.

# **DR. EDWARDS ELECTED CHIEF**

Dr. Hugh R. Edwards of Searcy was reelected chief of staff for Central Arkansas General Hospital. Dr. Edwards has served as chief of staff for more than twenty consecutive years. Other offi-

cers are Dr. Eugene Joseph as vice chief of staff and Dr. Bob W. Smith as secretary.

# **DR. NAYLES LOCATES**

Dr. Lee C. Nayles has joined The Medical Diagnostic Clinic in Camden.

# **DR. AHMED ELECTED**

Dr. S. A. Ahmed is the newly-elected chief of staff at Mercy Hospital and Pinewood Nursing Home in Waldron.



# **NEW MEMBERS**

## **DR. THOMAS B. GORDON**

Dr. Gordon, a native of Oklahoma City, Oklahoma, has joined the Arkansas County Medical Society.

His pre-medical education was with the University of Oklahoma and Southeast Oklahoma State University. He received a Bachelor of Science degree in Chemistry in 1978. Dr. Gordon is a 1982 graduate of the Oklahoma College of Osteopathic Medicine and Surgery at Tulsa. His internship was with the Muskegon General Hospital.

Dr. Gordon specializes in Family Practice. His office is located at 109 North Union Street in DeWitt.

## **DR. PAUL J. BUBAK**

Dr. Bubak has joined the Carroll County Medical Society. He was born in South Dakota.

Dr. Bubak attended the University of South Dakota for three years. He received his Bachelor of Science degree and medical degree from the University of Minnesota Medical School at Minneapolis. Dr. Bubak served his internship and part of his residency training with the Hennepin County Medical Center in Minneapolis. He also received residency training at the Phoenix Integrated Surgical Hospital in Arizona.

He is certified by the American Board of Surgery.

Dr. Bubak, a General Surgeon, moved to Berryville in 1980. His office is on Highway 62 East.

## **DR. WILLIAM E. FINFROCK**

Dr. Finfrock has also joined the Carroll County Medical Society. He was born in Richland, Washington.

Dr. Finfrock received a Bachelor of Science degree in Chemistry from the University of Washington in 1975. In 1979 he was graduated from the University of Washington School of Medicine in Seattle. His internship and residency were at the University of Nevada School of Medicine. He is board certified in Family Practice.

Dr. Finfrock practices Family Medicine at 41 Kingshighway in Eureka Springs.

## **DR. JOHN E. ALEXANDER, JR.**

Dr. Alexander, a native of Little Rock, has joined the Columbia County Medical Society.

He received a Bachelor of Science degree from Southern Arkansas University in 1975. Dr. Alexander is a 1980 graduate of the University of Arkansas College of Medicine. His Family Practice training was with the Area Health Education Center in Pine Bluff. He is board certified in Family Practice.

Dr. Alexander, a Family Physician, practices at 707 North Washington in Magnolia.

## **DR. JOHN W. FOOTE**

Dr. Foote has joined the Jackson County Medical Society. He was born in New Haven, Connecticut.

Dr. Foote received a Bachelor of Arts degree in 1958 from the Queen's University in Kingston, Ontario, Canada. He was granted his medical degree in 1962 by McGill University Faculty of Medicine in Montreal, Quebec. Dr. Foote served his internship and received his training in Urolo-



gy at the same institution. In 1969 he served a Fellowship in Urology at the Royal College of Surgeons in Canada.

Dr. Foote practiced for twelve years in Montreal, Quebec, Canada. While there, he served as Urologist-in-Chief at Queen Elizabeth Hospital, Assistant Urologist at Royal Victoria Hospital and Assistant Professor of Surgery at McGill University.

Dr. Foote moved to Newport in 1982. He practices Urology at 2000 McLain in Newport.

#### DR. J. ALAN SOLOMON

Dr. Solomon, a new member of the Miller County Medical Society, was born in Sheffield, Alabama.

He received his Bachelor of Arts degree in 1974 from Vanderbilt University in Tennessee. He is a 1978 graduate of the University of Arkansas College of Medicine. Dr. Solomon served his internship and residency at the Louisiana Medical Center in Shreveport.

Dr. Solomon, a General Surgeon, has joined the Collom and Carney Clinic at 4800 Texas Boulevard in Texarkana.

#### DR. EDWARD B. MIEDEMA

Dr. Miedema, a native of Grand Rapids, Michigan, has joined the White County Medical Society.

He received his Bachelor of Science degree from Calvin College in Grand Rapids in 1971. Dr. Miedema is a 1975 graduate of the University of Michigan Medical School in Ann Arbor. After an internship with Gundersen Clinic in LaCrosse, Wisconsin, Dr. Miedema served his residency in Urology at the University of Arkansas College of Medicine in Little Rock.

Dr. Miedema practiced at the Hospital of Light in Haiti, West Indies, from 1980 to 1983. He received his certification in Urology in 1982.

Dr. Miedema practices Urology at 1300 South Main in Searcy.

#### DR. DIANA T. JUCAS

The Union County Medical Society has added Dr. Jucas to its membership roll. Dr. Jucas was born in Ravensburg, West Germany.

Her pre-medical education was at the University of Illinois in Chicago and at Hendrix College in Conway. She is a 1969 graduate of the University of Arkansas College of Medicine. Her internship and residency training were with the Los Angeles County-University of Southern California Medical Center. She received her board certification in Diagnostic Radiology in 1974.

Dr. Jucas practiced in Austria and Los Angeles. While in Los Angeles, she also served as a clinical instructor in the Department of Radiology at Los Angeles County-University of Southern California Medical Center.

Dr. Jucas specializes in Diagnostic Radiology. Her office is located at 700 West Grove in El Dorado.

#### DR. SRINI VASAN

Dr. Vasan is another new member of the Union County Medical Society. He is a native of Madras, India.

Dr. Vasan received his pre-med education at the Faculty of Medicine, Osmania University, India. He was graduated from the Faculty of Medicine Osmania University in India in 1963. His internship was with Osmania University Hospital in India and the University of Southern California Medical Center in Los Angeles. Dr. Vasan received his residency training at London University College Hospital, London, England. He joined the Tumor Clinic in Pasadena, California, in 1977.

Dr. Vasan is board certified in Radiation Therapy.

He specializes in Radiation Therapy. Dr. Vasan has joined SARTI at 503 North Thompson in El Dorado.



**THINGS**



**TO  
COME**

**March 29-31**

Spring Meeting. Arkansas Chapter, American

College of Surgeons. Arlington Hotel, Hot Springs.

**April 12-15**

108th Annual Session, Arkansas Medical Society. Excelsior Hotel, Little Rock. For further information, see the convention section of this issue of the Journal.

**May 12-20**

*Providing Quality Medical Care in Your Practice.* Southern Medical Association. Marriott Hotel, Hilton Head, South Carolina. Fee: \$220 for SMA members; \$275 for nonmembers. For

further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; telephone 205-323-4400.



## RESOLUTIONS



### DR. R. FRANK BRYANT

WHEREAS, the members of the Jefferson County Medical Society are deeply saddened by the recent death of their esteemed colleague, R. Frank Bryant, M.D., and

WHEREAS, Dr. Bryant has been held in great respect by his fellow physicians for his devotion to the profession; and

WHEREAS, his devotion to the betterment of the health of his countless patients was recorded by their reverence of him;

BE IT THEREFORE RESOLVED:

THAT, this resolution be adopted and made a part of the permanent record of this Society; and

THAT, a copy of the resolution be sent to Dr. Bryant's family as a token of our sincere appreciation of his life and leadership, and

THAT, a copy be sent to the Journal of the Arkansas Medical Society for publication.

/s/ R. A. Irwin, M.D., President  
Jefferson County Medical Society

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### DR. CARL L. WILSON

WHEREAS, God in His infinite mercy has seen fit to call from our midst on the twenty-second day of December 1983, Dr. Carl L. Wilson, and

WHEREAS, Dr. Wilson has faithfully served his patients in the community at large throughout his entire medical career, and

WHEREAS, Dr. Wilson, during his years of practice, has reflected the highest ideals of his profession, and

WHEREAS, in his devotion to family, church and friends, he exemplified the best in man, and

WHEREAS, the Sebastian County Medical So-

city mourns his loss

THEREFORE, BE IT RESOLVED, the Sebastian County Medical Society, in its regular meeting on January 10, 1984, hereby adopts these Resolutions and directs that a copy be furnished the family and that a copy be published in the *Journal of the Arkansas Medical Society*.

Annette V. Landrum, M.D., President  
Sebastian County Medical Society



Woman's  
Auxiliary

### THANKS TO GARLAND COUNTY MEDICAL SOCIETY . . .

A word of thanks from the Arkansas Medical Society Auxiliary to the Garland County Medical Society for paying the expenses of Nancy Clark (president-elect of Garland County Auxiliary) to the American Medical Association Auxiliary Leadership Confluence in Chicago, October 8-11.

Confluence is such a beneficial meeting. Besides getting to know your own state participants better, Confluence provides leadership training, program ideas and how-tos, plus wonderful seminars and workshops on varied subjects of benefit to state and county leaders.

Word is getting around about Confluence. This year, seven counties expressed a desire to go. The National Auxiliary only pays air fare for three county presidents-elect from Arkansas. This year, thanks to the generous support of the Arkansas Medical Society, the State Auxiliary budget



was able to provide \$150 to those three county presidents-elect and \$250 towards the expenses of one additional participant. Additional participants must bear their own expenses.

It is hoped that next year more county societies will consider sending their Auxiliary County presidents-elect. It is truly money well spent, as Confluence sends back informed county leaders who are all fired up with new ideas and leadership skills to show their communities that physicians and their spouses are interested in their good health. What better PR for the Society?

Those attending Confluence were Mrs. Paul Cornell, president of the Arkansas Auxiliary; Mrs. Deno Pappas, president-elect of the Arkansas Auxiliary; Mrs. Robert Taylor, president-elect of Craighead-Poinsett County Auxiliary; Mrs. Paul McCash, president-elect of Bowie-Miller County Auxiliary; Mrs. John Guenther, president-elect of the Baxter County Auxiliary; Mrs. Louis Poole, president-elect of the Sebastian County Auxiliary;

Mrs. Robert Clark, president-elect of the Garland County Auxiliary.

Our thanks again to the Garland County Medical Society!

/s/ Joann Cornell, President



#### **ANSWER—Electrocardiogram of the Month**

**DISCUSSION:** The patient is in sinus rhythm. The PR interval is 0.12 sec. and delta waves are seen in many leads. Of potential interest is the pattern presented in the inferior leads where the delta waves are negative yielding a "pseudoinfarct" appearance. Thus, the trace is compatible with Wolfe-Parkinson-White syndrome which may, of course, be associated with significant tachyarrhythmia. The patient's symptoms could well be related to W-P-W syndrome. The feature editor wishes to thank Dr. Steve Hutchins for his assistance with this month's electrocardiogram.



# Doctor . . . . Shouldn't You Contribute To M. E. F. F. A.?

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**When You Contribute You Help Achieve the Objectives of the Foundation Which Are Set Forth in The Charter Under the Purposes:**

1. To engage in and carry out scientific research, charitable, educational and scientific activities and projects.
2. Assist medical students in the pursuit of their education.
3. To administer governmental programs and grants.
4. To accept and hold as assets of the corporation in trust or otherwise consistent with its other charitable purposes.

**One Way You Can Support Your Foundation Is by Completing the Bequest Form Below and Mailing to:**

**ARKANSAS MEDICAL SOCIETY  
P. O. Box 1208  
Fort Smith, Arkansas 72902**

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**M. E. F. F. A.**

## ***Form of Bequest***

I give and bequeath to the Medical Education Foundation for Arkansas the  
sum of-----

dollars (\$-----) to be used by the Board of Trustees of the Founda-  
tion for-----

(state purpose of gift if restricted)

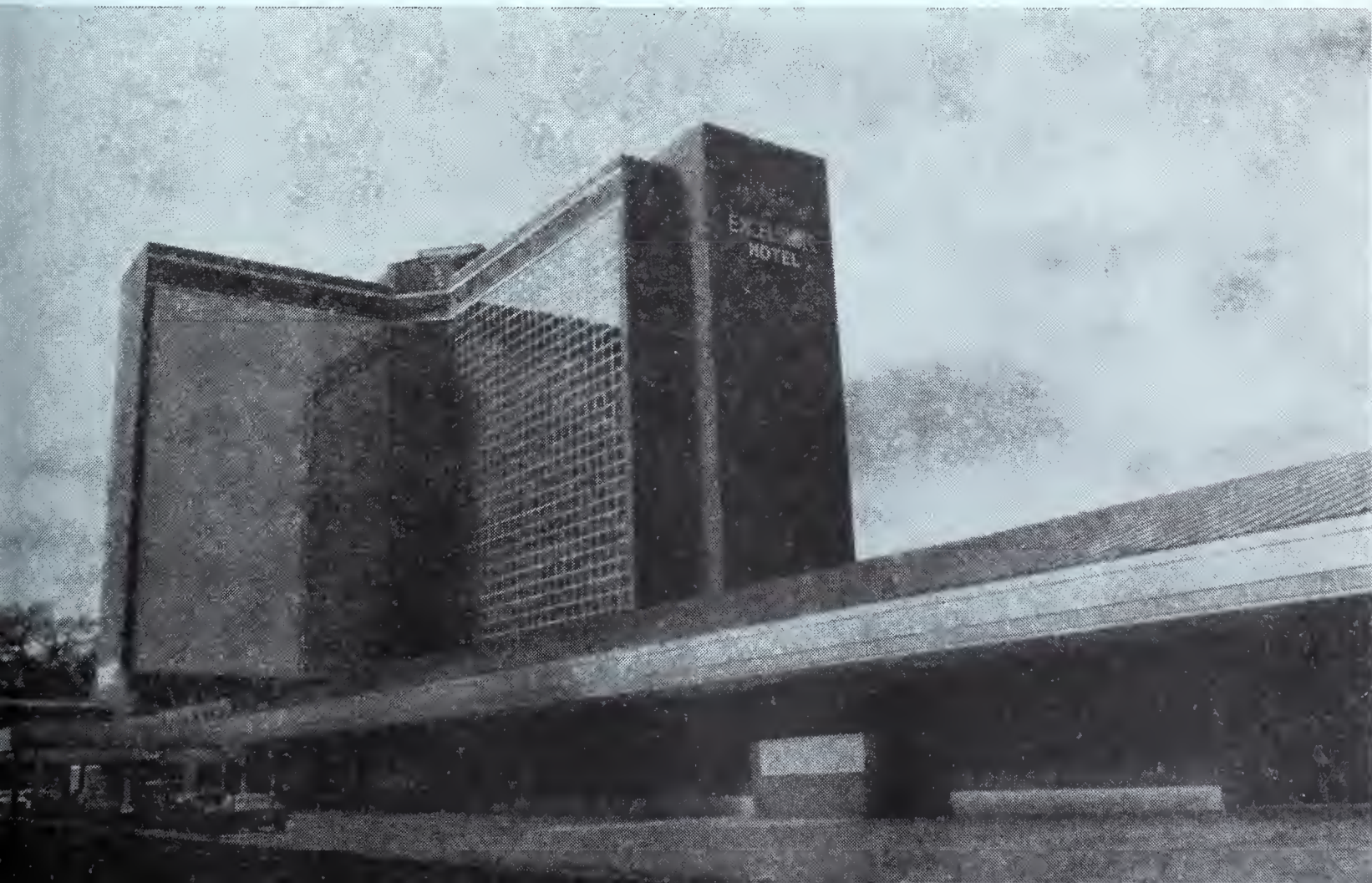
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# ANNUAL MEETING PROGRAM

Excelsior Hotel and Statehouse Convention Center  
April 12-15, 1984

Little Rock





# CONVENTION OFFICIALS

CONVENTION CHAIRMAN: Charles H. Rodgers, M.D., Little Rock

## PROGRAM COMMITTEE:

Thomas A. Bruce, M.D., Little Rock, Chairman  
Ken Lilly, M.D., Fort Smith  
Richard Martin, M.D., Paragould  
Kelsy Caplinger, M.D., Little Rock  
Robert Casali, M.D., Little Rock  
J. Larry Lawson, M.D., Paragould  
John Delamore, M.D., Fordyce

## SCIENTIFIC EXHIBITS:

Robert Casali, M.D., Little Rock, Chairman  
Larry Lawson, M.D., Paragould  
John Delamore, M.D., Fordyce

## TECHNICAL EXHIBITS:

Charles H. Rodgers, M.D., Chairman  
Kelsy Caplinger, M.D., Little Rock  
William Jones, M.D., Little Rock

## SOCIAL COMMITTEE:

Dr. and Mrs. Frank Morgan, North Little Rock  
Dr. and Mrs. Charles Logan, Little Rock

## SPEAKER HOSTS:

William N. Jones, M.D., Little Rock  
Harold Purdy, M.D., Little Rock

MEMORIAL SERVICE: Kelsy Caplinger, M.D., Little Rock

PRAYER BREAKFAST LIAISON: Ray Jouett, M.D., Little Rock

## SPORTS —

TENNIS AND RACQUET BALL: Harold Purdy, M.D., Little Rock

## GOLF:

John Delamore, M.D., Fordyce  
Charles Logan, M.D., Little Rock  
John Satterfield, M.D., Little Rock

## 5K RUN:

Robert Casali, M.D., Little Rock  
Charles H. Rodgers, M.D., Little Rock  
Robert D. Dickins, Jr., M.D., Little Rock

# CONTINUING MEDICAL EDUCATION CREDIT

As an organization accredited for continuing medical education, the Arkansas Medical Society Committee on Scientific Programs certifies that this continuing medical education activity meets the criteria for hour-for-hour credit in Category I of the Physician's Recognition Award of the American Medical Association.

# EDUCATIONAL GRANTS

The Arkansas Medical Society expresses appreciation to the following firm for sponsoring a scientific speaker:

CIBA Pharmaceuticals

The Society also expresses appreciation to the following firm for an educational grant:

Eli Lilly and Company



# *General Information*

## **REGISTRATION**

The Society's convention registration desk will be located in the Osage Room of the Statehouse Convention Center (one level below the lobby of the Excelsior Hotel). The registration hours will be:

Wednesday, April 11	3:00 p.m. - 5:00 p.m.
Thursday, April 12	8:00 a.m. - 5:00 p.m.
Friday, April 13	8:00 a.m. - 5:00 p.m.
Saturday, April 14	8:00 a.m. - 5:00 p.m.
Sunday, April 15	8:00 a.m. - 11:00 a.m.

Registration cards and badges will be prepared in advance for the officers of the Arkansas Medical Society and for the county society delegates.

All members and visitors are required to register, as admission to all sessions will be by badge only. There will be a \$5 registration fee for non-member physicians.

Advance reservations will be requested by mail for the boat trips on Friday evening, the dinner-dance on Saturday evening, and the Prayer Breakfast on Sunday morning. Please watch your mail for reservation forms.

## **TELEPHONE SERVICE**

The Society will have a direct-line convention telephone operating at the Convention Center. The telephone number is 372-4712. Members of the Society staff may be reached at that number during registration hours. Physicians may leave that number with their office personnel.

The telephone number for the Excelsior is 375-5000.

## **BLUE CROSS-BLUE SHIELD RECEPTION**

Arkansas Blue Cross-Blue Shield will again sponsor a reception for all members of the Society. The reception is scheduled for 6:30 p.m. on Thursday evening, April 12, in the Excelsior.

## **ARKANSAS RIVER BOAT TRIPS**

The Social Committee has arranged for "Reliving the Past" on Friday evening, April 13, with boat trips on the Arkansas River. At the 1895 meeting of the Arkansas Medical Society in Little Rock, the Little Rock Medical Society entertained members of the Society and their spouses on an excursion up the Arkansas River on board the steamer Rees Pritchard and barges.

Members may choose between a Sunset Cruise from 5:00-7:00 p.m. and a Moonlight Cruise from 9:00-11:00 p.m. There will be refreshments and music by the Happy Time Jazz Band. Each cruise will be limited to ninety people. Advance reservations are required.

## **COUNCIL RECEPTION**

A reception for all members of the Society and their guests will be held from 7:00 to 9:00 p.m. on Friday evening, April 13, in the Excelsior. There will be drinks, food, and fellowship so plan to attend.

## **API HOSPITALITY HOUR**

American Physicians Insurance will host a hospitality hour for members of the Society and their guests from 6:00 to 7:00 p.m. on Saturday evening preceding the inaugural dinner-dance.

## **INAUGURAL DINNER DANCE**

Dr. Charles Wilkins, Jr., of Russellville, will be installed as the new president

of the Arkansas Medical Society during a formal dinner dance beginning at 7:00 p.m. Saturday evening. The Betty Fowler Band will provide music for dancing.

The current president, Dr. Asa Crow of Paragould, will be master of ceremonies for the dinner.

#### FIFTY YEAR CLUB LUNCHEON

The Society will host a luncheon for members of the Fifty Year Club on Friday, April 13, at 12:00 noon in the Excelsior Hotel. Dr. Milton C. John of Stuttgart is president of the Fifty Year Club and Dr. John Price of Monticello is secretary.

Physicians eligible for membership in the Fifty Year Club this year are Dr. Frank Adams of Hot Springs, Dr. Daniel Autry, Dr. Elizabeth Fletcher, Dr. Oscar Kozberg, Dr. W. J. Schwarz and Dr. E. Lloyd Wilbur all of Little Rock, Dr. B. L. Church of North Little Rock, Dr. Lemon Clark of Fayetteville, Dr. Ralph Hamilton of West Memphis, Dr. John W. Harper of El Dorado, Dr. Jabez Jackson of Newport, Dr. W. J. Ketz of Batesville, Dr. A. C. Modelevsky of Jonesboro, Dr. C. W. Rasco, Jr., of DeWitt, and Dr. Vance Strange of Stamps.

#### PRESIDENTS' LUNCHEON

The Society will host a luncheon at 12:00 noon on Friday, April 13, for physicians who have served as president of the Arkansas Medical Society. The luncheon will be held in the Capital Hotel.

#### PRAYER BREAKFAST

The Committee on Medicine and Religion will sponsor a Prayer Breakfast on Sunday morning, beginning at 7:30 a.m., for members of the Society and the Auxiliary. The breakfast will be in the Excelsior Hotel.

Dr. Walter O'Neal, chairman of the Committee, has announced the following program for the Prayer Breakfast:

Invocation: Dr. Ronald Hardin, Little Rock  
Song Service: Dr. C. Randolph Ellis, Malvern  
Solo: Dr. Rich Brown  
Accompanied by: Mrs. Rich Brown  
Devotional: Dr. Carl Wenger, Little Rock  
Benediction: Dr. Hardin



## *Memorial Service*

Dr. Kelsy Caplinger, chairman for the Memorial Service, has announced the following program for the joint Society-Auxiliary service at 11:30 a.m. on Saturday, April 14:

Prelude — "Jesu, Joy of Man's Desiring" ..... Bach, Arr. Allured  
Adult Handbell Choir  
Trinity United Methodist Church, Little Rock  
Debbie Biniores, Director  
Invocation ..... The Reverend William D. Elliott  
Senior Minister, Trinity United Methodist Church, Little Rock  
Scripture ..... Wisdom of Sirach (38:1-7; 12-14) (The Apocrypha)  
Kelsy J. Caplinger, M.D.



Handbell Anthem — "Amazing Grace" ..... Arr. John Wilson

Reading of Names of Deceased members of the Auxiliary  
Mrs. Paul Cornell, Auxiliary President

Scripture ..... Psalm 23

Kelsy J. Caplinger, M.D.

Reading of names of deceased members of the Society  
Asa A. Crow, M.D., Society President

Litany — Asa A. Crow, M.D.

Benediction — "My Shepherd Will Supply My Need" ..... Folk Hymn  
Elizabeth Small, Soloist, Chancel Choir Member,  
Trinity United Methodist Church, Little Rock

The chairman of the Society's Committee on Medicine and Religion, Walter H. O'Neal, M.D., will assist with the program by lighting of candles during the service.

### IN MEMORIAM

#### SOCIETY MEMBERS

Carl H. Adams, M.D., Little Rock  
Robert M. Bransford, M.D.,  
Texarkana  
R. Frank Bryant, M.D., Pine Bluff  
John H. Burge, M.D., Lake Village  
Thomas E. Burrow, M.D., Hot Springs  
Merl T. Crow, Jr., M.D., Warren  
George W. Dickinson, M.D.,  
Fayetteville  
S. Wright Hawkins, M.D., Fort Smith  
Carl L. Parkerson, M.D., Hot Springs

Chalmers S. Pool, M.D., Little Rock  
Robert E. Richardson, M.D., Little Rock  
G. Allen Robinson, M.D., Harrison  
Joe F. Rushton, M.D., Magnolia  
H. Elvin Shuffield, M.D., Little Rock  
William A. Snodgrass, Jr., M.D.,  
Little Rock  
Robert G. Valentine, M.D.,  
North Little Rock  
Carl L. Wilson, M.D., Fort Smith

#### AUXILIARY MEMBERS

Mrs. John Brewer, North Little Rock      Mrs. O. C. Melson, Little Rock  
Mrs. W. Hickman Calaway, Batesville      Mrs. L. H. Lanier, Texarkana  
Mrs. Davis W. Goldstein, Fort Smith

#### SLIDE PRESENTATION BY C. RANDOLPH ELLIS, M.D.

Dr. C. Randolph Ellis of Malvern, a past president of the Arkansas Medical Society, is usually seen around each meeting with his camera. This year, Dr. Ellis will present a continuous showing of his slides from conventions through the years. The slides will feature the inaugural ceremonies for a number of Society presidents, as well as interesting candid shots of some of the members of the Society and the Auxiliary. The slides will be shown in the exhibit area. Members are urged to view Dr. Ellis' slides.

### SPORTS ACTIVITIES

#### 5K FUN RUN

A 5K Fun Run is scheduled for members of the Society and the Auxiliary at 6:30 a.m. on Saturday, April 14. The Fun Run is sponsored by Meadox Medical. Participants will gather at the hotel at 6:00 a.m. Each Fun Run participant will receive a T-shirt and token gifts will be awarded. Refreshments will be provided at the end of the run.

#### TENNIS AND RACQUET BALL

Arrangements have been made with Southwest Fitness and Racquet Club, 6915 Geyer Springs Road, Little Rock (568-5535) for members to use the club facilities

for individual play during the convention. Members interested in playing tennis or racquet ball should contact the club prior to the meeting to arrange times for play.

### GOLF

Dr. John Satterfield has made arrangements for members to play golf at the Country Club of Little Rock on Friday afternoon, April 13, beginning at 2:00 p.m. The course will be available for that day only. Members wishing to play golf at the club should contact Dr. Satterfield in advance for details. Dr. Satterfield's telephone number is 664-3402 and his address is 500 South University, Little Rock 72205.

Members may play at Maumelle Country Club on Thursday and Friday only. The manager suggests that golfers wishing to play notify the club in advance to arrange for golf carts and tee times. The Pro Shop number is 851-3700.



## *Business Sessions*

### MEETINGS OF THE COUNCIL

The Council of the Arkansas Medical Society will meet daily during the convention at times listed below. All meetings will be held in the Excelsior.

Thursday, April 12	9:30 a.m.
Friday, April 13	7:30 a.m.
Saturday, April 14	7:30 a.m.
Sunday, April 15	8:30 a.m.
Sunday, April 15	Immediately following adjournment of the House of Delegates (brief re-organizational meeting and group photograph of new officers)

The voting members of the Council are: the councilors, the president, the first vice president, president-elect, secretary, treasurer, and immediate past president. The speaker, vice speaker, and other past presidents are members ex-officio without vote.

### HOUSE OF DELEGATES

The opening session of the House of Delegates of the Arkansas Medical Society will begin at 12:30 p.m. on Thursday, April 12, in the Convention Center. Speaker of the House, Amail Chudy, M.D., will preside, assisted by Vice Speaker Paul Wallick, M.D.

All items of business to be considered by the House must either be printed in the March issue of the Journal or submitted to the headquarters office in writing twenty days prior to the meeting. Any new business proposed during the sessions of the House of Delegates must have a two-thirds vote of attending delegates for introduction.



Items of business will be referred by the Speaker of the House of Delegates to one of three reference committees. Open hearings on those items of business will be held by the reference committees following the session of the House. All members of the Society are welcome to attend the meetings of the reference committees and to express views on the various reports, resolutions, etc.

## **A G E N D A**

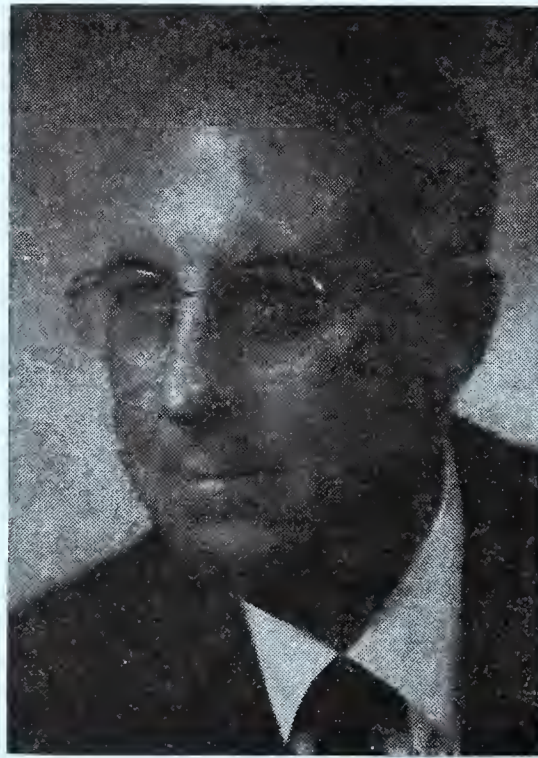
### **FIRST MEETING, HOUSE OF DELEGATES**

**12:30 p.m., Thursday, April 12**

**Amail Chudy, M.D., Speaker**

**Paul Wallick, M.D., Vice Speaker**

1. Call to Order
2. Introduction of Guests:
  - Mrs. John C. Bates, President, American Medical Association Auxiliary
  - Mrs. William J. Reardon, President, Southern Medical Association Auxiliary
  - Mrs. Paul Cornell, President, Arkansas Medical Society Auxiliary
  - Mrs. Deno Pappas, President-elect, Arkansas Medical Society Auxiliary
3. Address by Hubert A. Ritter, M.D., St. Louis, Member of the Board of Trustees of the American Medical Association
4. Address by the President of the Arkansas Medical Society, Asa A. Crow, M.D., Paragould
5. Adoption of minutes of the 107th Annual Session as published in the June 1983 issue of the Journal of the Arkansas Medical Society
6. Presentations
7. Old Business
  - A. S. Koenig, Jr., M.D., chairman of the Constitutional Revisions Committee, will present proposed amendments to the Constitution and Bylaws for final consideration of the House. (Amendments are related to election of officers and dues waiver for new members. Wording of amendments is included under "House of Delegates Business Affairs" heading in this section of the Journal.)
8. New Business
  - Reports from Committees
9. Announcements of vacancies on State Boards
10. Selection of Nominating Committee for Society Officers
  - Members of the House will meet by councilor district to select one nominating committee member from each district. The committee elected will select nominations for elections at the 1985 Annual Session.
11. Recess until Sunday



Hubert A. Ritter, M.D.  
St. Louis, Missouri  
Member, Board of Trustees  
American Medical Association

**AGENDA**  
**FINAL MEETING, HOUSE OF DELEGATES**  
**10:00 a.m., Sunday, April 15**  
**Amail Chudy, M.D., Speaker**  
**Paul Wallick, M.D., Vice Speaker**

1. Call to Order
2. Election
3. Reports of Reference Committees
4. Supplemental Report of Council covering convention meetings — John P. Burge, M.D., Chairman
5. Old Business
6. New Business
  1. Nominations for Board positions
    - (A) State Medical Board (4th district)
    - (B) State Board of Health (1st and 5th districts)
7. Adjournment

**REFERENCE COMMITTEES**

Reference Committees are appointed by the Speaker of the House of Delegates to consider the various reports and resolutions. Reports published in the March issue of the Journal, as well as any reports and resolutions presented at the first meeting of the House on April 12, will be referred by the Speaker to the reference committees. The committees hold open hearings immediately following the House of Delegates session on Thursday. After the open hearing, the reference committees will hold executive sessions for the purpose of preparing recommendations and reports for the House of Delegates. Reports of the Reference Committees will be acted upon by the House of Delegates at the Sunday Session.



**REFERENCE COMMITTEE #1:**

Warren Douglas, M.D., Little Rock, Chairman  
J. Larry Lawson, M.D., Paragould  
Herbert Taylor, M.D., West Memphis  
Frank Lawrence, M.D., Russellville  
Charles Crocker, M.D., Little Rock

**Observer:**

Kris Shewmake, Medical Student

**REFERENCE COMMITTEE #2:**

Charles Rodgers, M.D., Little Rock, Chairman  
Cal Sanders, M.D., Camden  
Ken Meacham, M.D., Searcy  
Hoy B. Speer, M.D., Stuttgart  
Robert Sykes, M.D., El Dorado

**Observer:**

Karen Kozlowski, Medical Student

**REFERENCE COMMITTEE #3:**

James L. Gardner, M.D., Hot Springs, Chairman  
Harold D. Purdy, M.D., Little Rock  
Wendell Ross, M.D., Fort Smith  
John Crenshaw, M.D., Pine Bluff  
Robert Clark, M.D., Hot Springs

**Observer:**

Jim Counce, Medical Student

**STATE BOARD VACANCIES**

**Arkansas State Medical Board**

A vacancy occurs in the Fourth Congressional District position on the Arkansas State Medical Board. Members from the counties in the district are urged to meet immediately following adjournment of the House of Delegates meeting on Sunday to vote for nominees. Nominations should be reported to the convention registration desk (only one nomination is required).

George F. Wynne, M.D., Warren, is currently serving a term which will expire December 31, 1984. He is eligible to succeed himself.

Counties in the Fourth Congressional District are: Ashley, Bradley, Calhoun, Clark, Columbia, Hempstead, Howard, Lafayette, Little River, Miller, Montgomery, Nevada, Ouachita, Pike, Polk, Sevier, and Union.

**Arkansas State Board of Health**

Vacancies will occur December 31, 1984, in the First and Fifth Congressional District positions on the Board of Health. Three nominations are required for each position. Those presently serving are eligible for reappointment. Members from the counties in the First and Fifth Congressional Districts will meet to select nominees for the Board positions. The meetings will be held by district immediately following adjournment of the House of Delegates session on Thursday. Members presently serving on the Board and the counties in the districts are:

First District: H. W. Keisker, M.D., Jonesboro

Counties in District: Clay, Craighead, Crittenden, Cross, Greene, Lee, Mississippi, Phillips, Poinsett and St. Francis

Fifth District: James Maupin, M.D., Dardanelle

Counties in District: Conway, Faulkner, Perry, Pope, Pulaski, and Yell

**ARKANSAS MEDICAL SOCIETY POLITICAL ACTION COMMITTEE**

The Board of Directors of the Arkansas Medical Society Political Action Committee will meet at 3:00 p.m. on Saturday, April 14, in the Convention Center.

**ARKANSAS STATE BOARD OF HEALTH**

The Arkansas State Board of Health will hold a luncheon meeting on Friday, April 13, in the Excelsior Hotel.



*Group and Specialty Meetings*

**Friday, April 13**

The Arkansas Chapter of the American College of Surgeons will have a luncheon meeting at 12:15 p.m. on Friday, April 13. J. Larry Lawson, M.D., President of the Chapter, plans a program on financial management.

**Saturday, April 14**

The Arkansas Academy of Ophthalmology will meet at 8:30 a.m. on Saturday, April 14. Harry W. Flynn, Jr., M.D., Bascom Palmer Eye Institute, Miami, Florida, will be guest speaker for the scientific program.

A luncheon and business meeting will follow the scientific session.

The Otolaryngology — Head and Neck Surgery group will meet at 9:00 a.m. on Saturday, April 14. Robert A. Jahrsdoerfer, Chairman of Otolaryngology at the University of Texas Medical School at Houston, will be guest speaker. His subjects will be: "Congenital Middle Ear Malformation"; "Tympanoplasty 1984"; "Ventilation Tubes; Fact, Fiction, and Failure".

The Arkansas Urologic Society will meet on Saturday, April 14, beginning with cocktails at 11:30 a.m. Following a luncheon, a scientific program will be presented with Ed McGuire, M.D., Chairman of the Section of Urology at the University of Michigan, as guest speaker.

The Arkansas Society of Plastic and Reconstructive Surgeons will meet at 12:00 noon on Saturday, April 14, in the Capital Hotel. There will be a business session in connection with the luncheon.

The Arkansas Society of Anesthesiologists will hold a luncheon meeting on Saturday, April 14, beginning at 12:15 p.m. Dr. Harold Carron, Professor of Anesthesiology at the University of Virginia Medical Center in Charlottesville will be guest speaker.

The Arkansas Orthopaedic Society will have a luncheon meeting beginning at 12:00 noon on Saturday, April 14. There will be a business session following the luncheon.

The Arkansas Chapter of the American College of Radiology will meet at 12:30 p.m. on Saturday, April 14, for luncheon and a business meeting.

Arkansas Neurosurgeons will hold a luncheon meeting on Saturday, April 14, beginning at 12:00 noon. There will be a business session in connection with the luncheon.



The Arkansas Pathology Society will hold a luncheon meeting on Saturday, April 14, beginning at 12:30 p.m. A business meeting will be held.

The Arkansas Society of Internal Medicine will have a luncheon meeting beginning at 12:15 p.m. on Saturday, April 14. John D. Abrums, M.D., President of the American Society of Internal Medicine, will be guest speaker. Dr. Abrums' presentation will be entitled "What If?"

The Arkansas Section of the American College of Obstetricians and Gynecologists will have a luncheon meeting on Saturday, April 14, beginning at 12:15 p.m.

The Arkansas Academy of Family Physicians will have a luncheon meeting on Saturday, April 14, beginning at 12:30 p.m. A scientific program is planned in connection with the luncheon and business session. Robert H. Taylor, M.D., Member of the Board of Directors and Chairman of the Commission on Health Care Services of the American Academy of Family Physicians, will be the Chapter's guest.



## *Socioeconomic Seminar*

**THURSDAY, APRIL 12**

**2:30-5:30 p.m.**

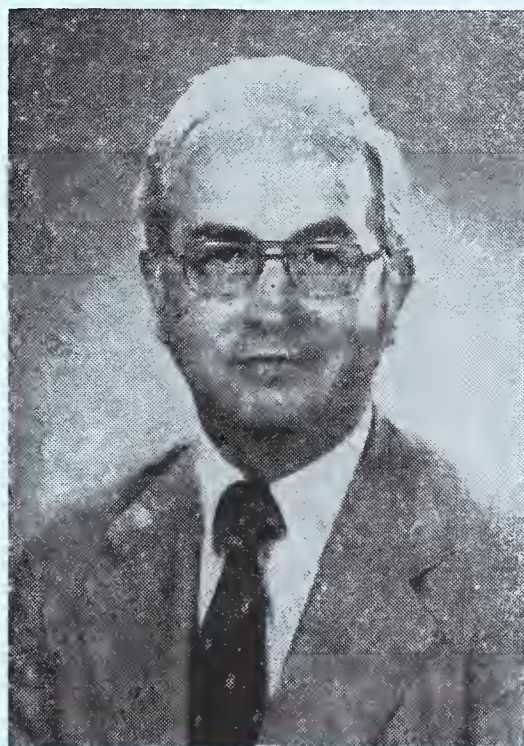
***Diagnosis Related Groups (DRG's) and Alternative Delivery Systems***

Presiding: Purcell Smith, Jr., M.D.

Chairman, Committee on Medicine-Business Liaison



Mr. Weisman



Dr. Taylor

2:30 p.m. "Impact of DRG's on Hospital Care and Medical Practice"

Mr. Walter L. Weisman, President and Chief Operating Officer,  
American Medical International, Inc. (AMI)  
Beverly Hills, California



3:30 p.m. Intermission

3:45 p.m. "Alternative Delivery Financing Systems"

Robert H. Taylor, M.D., Member of the Board of Directors and  
Chairman of the Commission on Health Care Services,  
American Academy of Family Physicians  
Spartanburg, South Carolina

4:30 p.m. "Alternative Delivery System Plans in Arkansas"

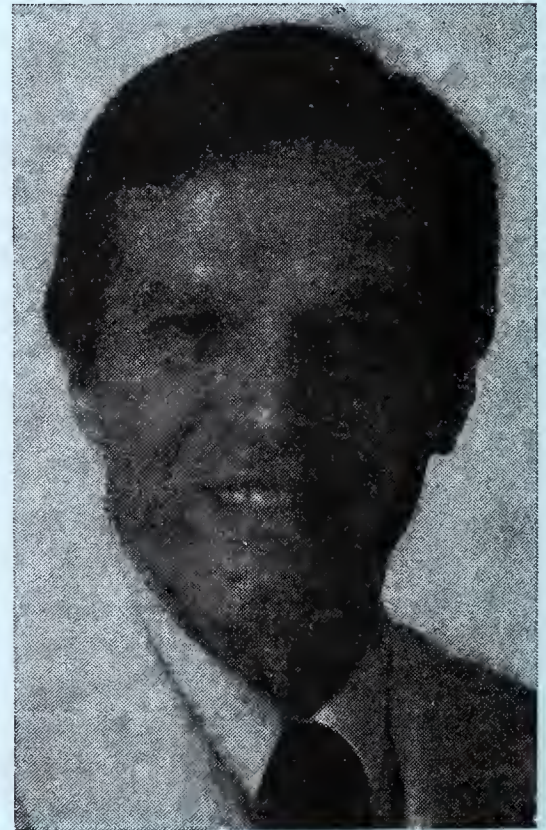
Mr. Robert Shoptaw, Executive Vice President,  
Arkansas Blue Cross-Blue Shield  
William H. Riley, M.D., Little Rock, Family Physician



## Distinguished Guest Speakers



Robert E. Rude, M.D.  
Assistant Professor of Internal Medicine  
Southwestern Medical School, Dallas



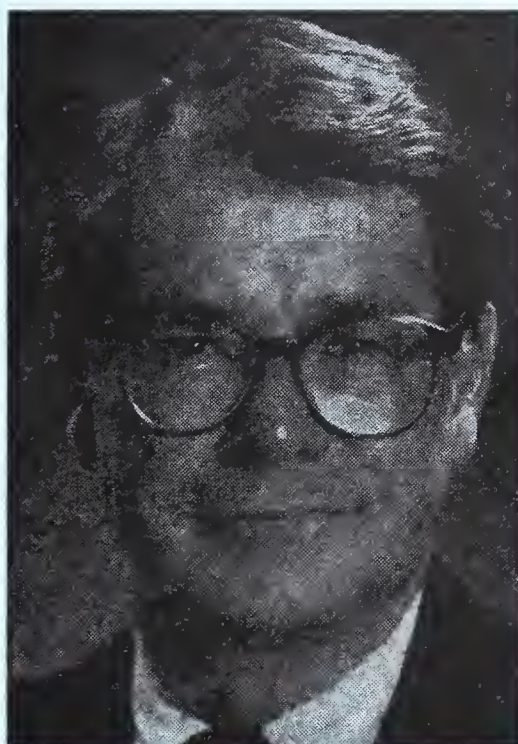
Robert A. Jahrsdoerfer, M.D.  
Chairman, Department of Otolaryngology  
University of Texas Medical School  
at Houston



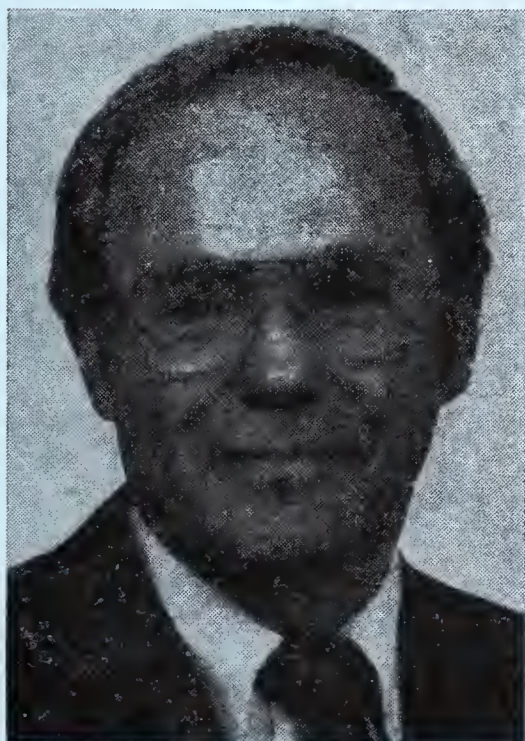
## Distinguished Guest Speakers



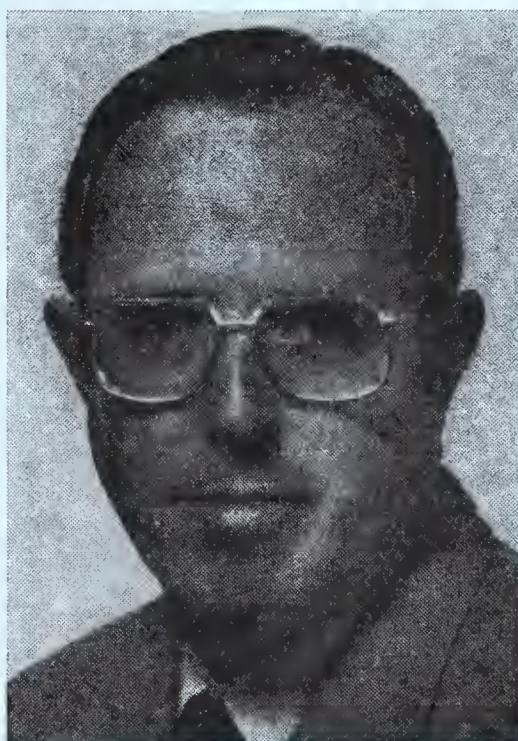
**James C. Breneman, M.D.**  
Galesburg, Michigan



**G. B. Stickler, M.D.**  
Professor of Pediatrics  
Mayo Clinic and Mayo Medical School  
Rochester, Minnesota



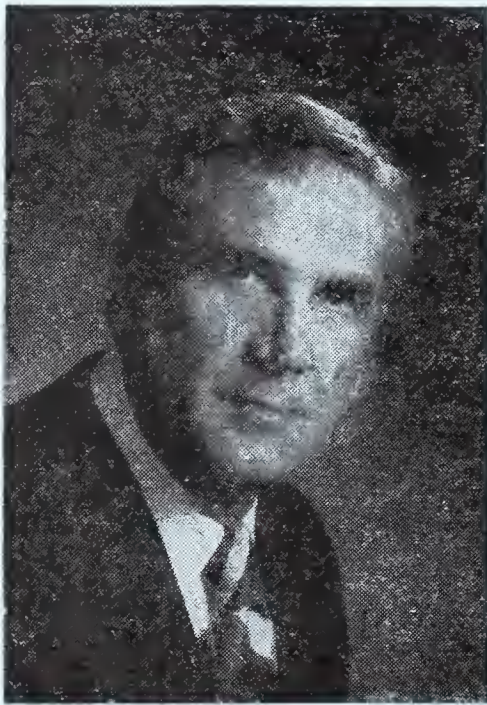
**Frank C. Miller, M.D.**  
Chairman, Department of  
Obstetrics and Gynecology  
University of Arkansas College of Medicine



**Robert W. Barnes, M.D.**  
Chairman, Department of Surgery  
University of Arkansas College of Medicine



## Distinguished Guest Speakers



**Harold Carron, M.D.**  
Professor of Anesthesiology  
University of Virginia Medical Center  
Charlottesville



**Harry W. Flynn, Jr., M.D.**  
Bascom Palmer Eye Institute  
Miami, Florida



**Jere D. Guin, M.D.**  
Chairman, Department of Dermatology  
University of Arkansas College of Medicine



## *Scientific Program*

### GENERAL SESSION

Program Theme:

*"Management of Chronic Disease"*

## **Friday Morning Session**

Presiding: Dr. Thomas A. Bruce, Little Rock, Program Chairman

- 9:00 a.m. Dr. Harry W. Flynn, Jr., Bascom Palmer Eye Institute, Miami, Florida  
"Management of Diabetic Retinopathy"
- 9:30 a.m. Dr. Robert A. Jahrsdoerfer, Chairman of Otolaryngology, University  
of Texas Medical School at Houston, Houston  
"Chronic Ear Disease — The Ultimate Sound Barrier"
- 10:00 a.m. INTERMISSION — VISIT EXHIBITS
- 10:20 a.m. Dr. Dan M. Spengler, Chairman of Orthopaedics, Vanderbilt  
University Medical Center, Nashville, Tennessee  
"Management of Acute and Chronic Low Back Pain"
- 10:50 a.m. Dr. Robert W. Barnes, Chairman, Department of Surgery, University  
of Arkansas College of Medicine, Little Rock  
"Peripheral Vascular Disease"
- 11:20 a.m. Dr. Ed McGuire, Chairman, Section of Urology, University of  
Michigan Medical School, Ann Arbor  
"Urinary Incontinence in the Elderly"

## **Friday Afternoon Session**

Presiding: Dr. Charles H. Rodgers, Little Rock, Second Vice President

- 1:30 p.m. Dr. Robert E. Rude, Assistant Professor of Internal Medicine,  
Southwestern Medical School, Dallas  
"Modern Management on Angina"
- 2:00 p.m. Dr. Richard V. Ebert, Distinguished Professor of Medicine,  
University of Arkansas College of Medicine, Little Rock  
"Update on Smoking"
- 2:30 p.m. INTERMISSION — VISIT EXHIBITS
- 3:00 p.m. Dr. G. B. Stickler, Professor of Pediatrics, Department of Pediatrics,  
Mayo Clinic, and Mayo Medical School, Rochester, Minnesota  
"Panic Attack Syndrome in Children and Adolescents"
- 3:30 p.m. Dr. Kenneth G. Goss, Professor and Chairman, Department of Family  
and Community Medicine, University of Arkansas College of  
Medicine, Little Rock  
"Care of the Chronically Ill by the Family Physician"
- 4:00 p.m. Dr. David Lipschitz, Professor of Medicine, University of Arkansas  
College of Medicine, Little Rock  
"Nutrition and Aging"
- 4:30 p.m. Dr. James C. Breneman, Galesburg, Michigan  
"Food Allergy"

## Saturday Morning Session

Presiding: Dr. James Gardner, Hot Springs, Third Vice President

- 9:00 a.m. Dr. Gregory Dwyer, Little Rock  
"Management of Psoriasis"
- 9:30 a.m. Dr. Jere D. Guin, Chairman, Department of Dermatology, University  
of Arkansas College of Medicine, Little Rock  
"Management of Patient with Chronic Urticaria"
- 10:00 a.m. INTERMISSION – VISIT EXHIBITS
- 10:30 a.m. Dr. Harold Carron, Professor of Anesthesiology, University of Virginia  
Medical Center, Charlottesville  
"Current Concepts in Chronic Pain Management"
- 11:00 a.m. Dr. Franklin C. Miller, Chairman, Department of Obstetrics and  
Gynecology, University of Arkansas College of Medicine,  
Little Rock  
"Chronic Illness During Pregnancy"



## *Arkansas Medical Society Auxiliary*

### **"LET'S GET ORGANIZED"**

The 60th Annual Session of the Arkansas Medical Society Auxiliary will be held April 12-15, 1984, in the Excelsior Hotel, Little Rock.

The following is an outline of the tentative convention schedule:

#### **Registration Hours: Excelsior Hotel**

Thursday .....	1:00 p.m. to 4:00 p.m.
Friday .....	8:00 a.m. to 10:00 a.m.
Saturday .....	8:00 a.m. to 10:00 a.m.

#### **HOSPITALITY SUITE**

(Location to be posted at registration desk)

Dr. and Mrs. Paul Cornell  
Dr. and Mrs. Deno Pappas  
Dr. and Mrs. Frank Morgan  
Hosts and Hostesses

#### **Thursday, April 12**

- 2:00 p.m. Pre-Convention Board Meeting, President's Suite, Excelsior Hotel.  
Joint meeting with President for State officers, committee chairmen,  
county presidents and presidents-elect, and all NEW State Board  
members.
- 4:00 p.m. Presenting THE BEST OF EVERYTHING  
Presidential Suite
- 6:30 p.m. Cocktail Party hosted by Arkansas Blue Cross and Blue Shield  
Excelsior Hotel

#### **Friday, April 13**

- 8:00 a.m. Past Presidents' Breakfast, The Capital Hotel



ARKANSAS MEDICAL SOCIETY MEETING, APRIL 12-15, 1984

- 9:00 a.m. Tasting of *THE BEST OF EVERYTHING*, Excelsior Hotel  
9:30 a.m. Opening General Session, Excelsior Hotel  
Mrs. Paul Cornell, President, presiding  
Guest Speaker: Mrs. William J. Reardon, President  
Southern Medical Association Auxiliary  
12:30 p.m. Luncheon, The Capital Hotel  
One of the first meetings of the Auxiliary was held at The Capital Hotel. You will want to attend this luncheon in this beautifully restored Hotel. Reservations must be made early because of limited seating and hotel requirements for numbers attending.  
5:00 p.m. Boat Trip Arkansas River — "Reliving the Past"  
to  
7:00 p.m. "... the Little Rock Medical Society entertained the members of the State Society, and the ladies accompanying them, on an excursion up the Arkansas River on board the steamer, Rees Pritchard, and barges."  
... *Journal of the Arkansas Medical Society*, May 1895  
7:00 p.m. Reception hosted by Council of the Arkansas Medical Society  
to Excelsior Hotel  
9:00 p.m.  
9:00 p.m. Moonlight Cruise, Arkansas River  
to  
11:00 p.m.

**Saturday, April 14**

- 9:00 a.m. Tasting of *THE BEST OF EVERYTHING*, Excelsior Hotel  
9:30 a.m. Second General Session, Excelsior Hotel  
Mrs. Paul Cornell, President, presiding  
Guest Speaker: Mrs. John C. Bates, President  
American Medical Association Auxiliary  
11:30 a.m. Joint Memorial Service with the Arkansas Medical Society  
Excelsior Hotel  
12:30 p.m. Luncheon, The Excelsior Hotel  
Awards: Doctors' Day  
AMA-ERF  
Membership  
Installation of Officers  
6:00 p.m. Cocktail party sponsored by American Physicians Insurance (API)  
7:00 p.m. Inaugural Dinner Dance — Dr. Charles Wilkins, Russellville, to be installed as president of the Arkansas Medical Society  
Music for dancing by Betty Fowler

**Sunday, April 15**

- 7:30 a.m. Prayer Breakfast for Members of the Society and Auxiliary sponsored by the Committee on Medicine and Religion, Excelsior Hotel  
10:00 a.m. Post-Convention Board Meeting  
President's Suite, Excelsior Hotel  
Arkansas Medical Society Auxiliary President: Mrs. Paul Cornell, Little Rock  
Convention Chairmen: Dr. and Mrs. Frank E. Morgan, North Little Rock  
Mrs. Amail Chudy, North Little Rock, Co-Chairman  
Mrs. Robert Valentine, North Little Rock, Registration  
Mrs. Gordon Oates, Little Rock, Publicity

## Technical Exhibits

Technical and scientific exhibits will be combined in Hall III of the Convention Center. Dr. Charles Rodgers, chairman of the Exhibits Committee, urges all members to take time to visit the displays of the exhibitors. The exhibits are a part of the educational value of the convention. Exhibitors this year include pharmaceutical firms, medical equipment and supply firms, insurance companies, automated business systems, investment firms, hospitals, medical organizations, and branches of military organizations.

Exhibitors provide financial support for the meeting. However, patronizing the exhibitors is more than reciprocity to those who help you; it is dealing selectively with the best sources. By exhibiting or otherwise supporting your Society, these companies demonstrate their leadership and reliability as suppliers.

On Friday morning from 8:00 a.m. to 9:00 a.m. there will be continental breakfast available in the exhibit hall. Plan to visit the exhibit area during that time. There will also be drawings for \$100 prizes during each program intermission so you should plan to be in the exhibit hall!

The following firms will be exhibiting at the meeting.

### ARKANSAS WHEELCHAIRS, INC.

Arkansas Wheelchairs, Inc., carries a complete selection of wheelchairs from power-driven models to the children's chairs. They also carry many other specialty items for the handicapped individual.

### NATIONAL MEDICAL RENTALS, INC.

National Medical Rentals is serving the home-health care needs of Arkansas with hospital equipment, oxygen and related respiratory items for the patient at home.

### AUTOMATED BUSINESS SERVICES

The booth will feature demonstration of electronic claims submission and accounts receivable system utilizing the Texas Instrument Professional Computer and IBM Personal Computer.

### RATHER, BEYER & HARPER

Representatives of Rather, Beyer & Harper will have brochures and all information on the Arkansas Medical Society's group insurance plans. The Income Protection plan, which has been in effect since 1947, is now being issued on a guaranteed renewable basis. Income protection benefits are now up to \$3,000 per month. Records will be available so each physician may review his insurance coverages and what he is eligible to apply for as a member of the Arkansas Medical Society.

### DEAN WITTER REYNOLDS, INC.

Information relative to all types of investments, either long or short term, will be available. Members of all major stock exchanges offering SIPC Insurance up to \$500,000. Insurance for Active Assets Accounts up to 25 million.

### BRISTOL LABORATORIES

You are cordially invited to visit Bristol Laboratories' exhibit. Our representatives at the booth welcome the opportunity to answer your questions concerning the Bristol line of products featuring: Amikin® (amikacin sulfate); Bristoject® (Bristol Emergency Medication System); Bufferin® c Codeine #3 (each tablet contains 325 mg aspirin,

48.6 mg aluminum glycinate, 97.2 mg magnesium carbonate and 30 mg codeine phosphate); Cefadyl® (sterile cephalapirin sodium); the Naldecon® Line (antihistamine decongestant/EX Ped Drops/DX Ped Syrup/CX Suspension; Salutensin® (hydroflumethiazide 50 mg/reserpine 0.125 mg); Stadol® (butorphanol tartrate); and Ultracet® (cefadroxil).

### ST. PAUL FIRE AND MARINE INSURANCE COMPANY

Information relating to physicians' and surgeons' professional liability. Printed educational material will be available. Underwriting, claims and marketing personnel will be present for discussion with convention members.

### MARKS AGENCY

Marks Agency presents the Arkansas Medical Society Life Insurance Program. The program has been in effect for many years. Term life insurance available.

### SOUTHERN MEDICAL ASSOCIATION

Southern Medical will have on display membership information, including its CME programs—Dial Access, Video Access, SOUTHERN MEDICAL JOURNAL, Regional Post-graduate Conferences, Malpractice Seminars, and other seminars of vital interest to today's physician. Also available will be information on SMA's fringe benefit program for the physician, his family and his employees.

### UNITED STATES AIR FORCE

If you are a Surgeon or OB/GYN or other medical specialist, the Air Force may have a special practice for you. You will enjoy an excellent pay and benefits package. Your regular working hours will allow you to spend more time with your family. You will work with modern equipment and some of the most highly-trained professionals in the world, serving your country and your patients. Come by and talk about your future.

### DODSON INSURANCE GROUP

Come by booth #22 for information on the dividend program for Workers Compensation Insurance available to members of the Medical Society.

### ARKANSAS ARMY NATIONAL GUARD

Opportunities available for physicians in the Arkansas Army National Guard. Flexible program to accommodate busy schedules. Paid CME's and space-available free travel throughout the United States. Several medical units and medical sections located throughout the State and physicians may choose the unit they desire.

### AMERICAN PHYSICIANS SERVICE GROUP, INC.

API is a physician-owned and operated malpractice, life and disability insurance company. Will detail their insurance products including the disability income. The APS 3 in-house micro computer system for physicians will also be displayed.

### GLAXO, INC.

GLAXO representatives will have information on Zantac®, Zinacef®, and Ventolin® in booth 29.

### CHARTER VISTA HOSPITAL

Charter Vista is a 65-bed private psychiatric and addictive



disease hospital in Fayetteville. Adolescents and adults are served. Literature on the hospital's treatment programs will be available at the booth.

#### FIRST VARIABLE LIFE INSURANCE COMPANY

Come by booth 31 for information on retirement plan investment products and administration.

#### WYETH LABORATORIES

Pictures, literature and video cassettes on Wytensin for hypertension and Ativan for anxiety will be on display in booth #32.

#### LINDE HOMECARE MEDICAL SYSTEMS, INC.

On display will be a complete line of home oxygen therapy equipment. Visit booth #33 for informational material and briefing by Linde representatives.

#### CUMMINGS X-RAY COMPANY, INC.

We are a full-line x-ray supplier of equipment and accessories, ECG, Stress Test and Physical Therapy equipment—sales and service. Full-service organization for the past 47 years.

#### NORWICH EATON PHARMACEUTICALS, INC.

Your Norwich Eaton representatives wish you a successful 1984 meeting. Complete information on Norwich Eaton products and professional services will be available at the Norwich Eaton exhibit.

#### ADRIA LABORATORIES, INC.

Adria Labs will exhibit ethical pharmaceutical products for all medical specialties as well as for nurses. We will solicit questions regarding our newest product for tension headache, Axotal.

#### RIKER LABORATORIES, INC./3M

Disalcid®—effective arthritis control without the g.i. side effects of other drugs. Norgesic® Forte—nothing works better on tension headache—nothing. Theolair™-SR—The four strengths of Theolair-SR (200, 250, 300 and 500 mg) scored, breakable tablets allow you to “fine tune” patient dosing in 50 mg increments, providing maximum bronchodilation short of theophylline side effects. With Theolair-SR—THE PROOF IS IN THE BREATHING!

#### ARKANSAS BLUE CROSS-BLUE SHIELD

Visit the Arkansas Blue Cross and Blue Shield exhibit to discuss any aspect of the voluntary Preferred Payment Plan. You will also have the opportunity to meet the Professional Services representative assigned to your area.

#### SAFEGUARD BUSINESS SYSTEMS

Come by booth 46 for information on one-write accounting systems, color-coding file folders and continuous forms.

#### MERCK SHARP & DOHME

Merck Sharp & Dohme cordially invites you to visit their exhibits featuring a number of products from their extensive line of pharmaceuticals. Representatives in attendance will be pleased to answer any questions you may have. Inquiries about our professional, informational, and educational services are welcomed.

#### SMITH KLINE & FRENCH LABORATORIES

Smith Kline & French Laboratories will feature TAGAMET® (brand of cimetidine) and DYAZIDE®, our trusted potassium-sparing oral diuretic/antihypertensive. Professional sales representatives will be available to answer questions and provide information on our products and services.

#### A. H. ROBINS COMPANY

You are cordially invited to visit the A. H. Robins exhibit and meet our representatives who will welcome the opportunity to discuss our products; Reglan and Micro-K.

#### CIBA PHARMACEUTICAL COMPANY

We will feature the latest clinical and technical information on Transderm-Nitro and other appropriate CIBA products.

#### AYERST LABORATORIES

Ayerst Laboratories invites members and guests of the Arkansas Medical Society to visit our exhibit where our representatives will answer your questions concerning Ayerst products.

#### EQUITABLE LIFE ASSURANCE SOCIETY OF THE UNITED STATES

Visit our booth for information on various Equitable policies available.



## *Scientific Exhibits*

Robert Casali, M.D., of Little Rock, Chairman for the Scientific Exhibits, has arranged a number of interesting scientific lectures. All members are encouraged to visit the exhibits as they are an integral part of the scientific program.

The following exhibits will be on display:

“Hippocrates ‘I will not cut for stone’ — Endourology Today”

Urology Associates, Little Rock

“Non-Invasive Evaluation of Peripheral Vascular Disease”

Vascular Labs of Arkansas, Inc., Little Rock

"Family Acceptance of Home Apnea Monitors"

Debra H. Fiser, M.D., Department of Pediatrics, University of Arkansas  
College of Medicine, Little Rock

"Arkansas Genetics Program"

Arkansas Genetics Program, University of Arkansas for Medical Sciences  
and Arkansas Children's Hospital, Little Rock

"Non-Surgical Percutaneous Interventions in Coronary Arterial Diseases"

University of Arkansas for Medical Sciences, Little Rock

"AMA/GTE Telenet Medical Information Network"

Pulaski County Medical Society

"Interesting Cases — Head and Neck C.T."

Radiology Associates, P.A., Little Rock

"Circle of Independence"

Arkansas State Spinal Cord Commission, Little Rock

"Lip Adhesion in Bilateral Cleft Lip"

Department of Otolaryngology and Maxillofacial Surgery, University of  
Arkansas College of Medicine and Arkansas Children's Hospital, Little  
Rock

"Impression Method of Fitting Artificial Eyes"

Jack Diner, Department of Otolaryngology, University of Arkansas for  
Medical Sciences, Little Rock

"Area Health Education Centers"

University of Arkansas College of Medicine

"Small Fenestra Stapedectomy Technique"

H. A. Ted Bailey, Jr., M.D., James J. Pappas, M.D., Sharon S. Graham,  
M.S., Little Rock

"Interactive Learning in Pathology Using the Videodisc and Microcomputer"

Department of Pathology, University of Arkansas for Medical Sciences,  
Little Rock

"Radionuclide Diuretic Renogram in Myelodysplasia"

Imaging Division, Department of Radiology, University of Arkansas for  
Medical Sciences, Little Rock

"Intra-Operative Ultrasound: A Window to the Brain"

William M. Chadduck, M.D., Department of Neurosurgery, University of  
Arkansas College of Medicine, Little Rock

"Argon Laser Treatment of Glaucoma"

George T. Schroeder, M.D., Little Rock

"Porocoat Biological Fixation — Clinical Experience with Bipolar Hemi — or  
Total Hip Arthroplasty"

Arkansas Orthopedic Association, Little Rock

"CIS-Platinum Sensitization to Radiation Therapy for Squamous Carcinoma  
of the Head and Neck"

Bruce Leipzig, M.D., and Roberto Putzeys, M.D.

"Ultrastructural Studies on Synchronous Aortic and Jugular Paragangliomas"

Veterans Administration Medical Center and University of Arkansas for  
Medical Sciences, Little Rock

"Disability Evaluation Under Social Security"

Disability Determination for Social Security



"Congenital Heart Defects in Arkansas"

Arkansas Children's Hospital and Department of Pediatrics at the University of Arkansas College of Medicine, Little Rock

"Le Fort Fractures of the Facial Bones"

University of Arkansas for Medical Sciences, Little Rock

"Are Child Car Seats Safe Enough to Prevent Pediatric Head Injury?"

John R. Mawk, M.D., University of Arkansas for Medical Sciences, Department of Neurosurgery and Arkansas Children's Hospital, Little Rock

"Ultrasonic and CT Assessment of Cerebral Mantle Thickening Rates after Zero-Pressure and Low-Pressure Shunting"

University of Arkansas for Medical Sciences and Arkansas Children's Hospital — Departments of Neurosurgery and Radiology, Little Rock

"The Spectrum of Occult Dysrhythmia"

University of Arkansas for Medical Sciences/Arkansas Children's Hospital, Departments of Neurosurgery and Radiology, Little Rock

"Chest Wall Masses in Children"

E. S. Golladay and D. Mollitt, M.D., Little Rock

"Surgical Advances for Treatment of Obstructive Sleep Apnea and/or Severe Snoring"

The Ear & Nose-Throat Clinic, P.A., Little Rock



## *House of Delegates Business Affairs*

Business items printed below are brought to the attention of individual members and the county medical societies. The items reported here represent those received in time for publication in advance of the meeting. All reports will be referred to reference committees. Members are urged to attend the open hearings of the reference committees to express their views. Reference committee hearings are scheduled for 2:30 p.m. on Thursday, April 12.

### **OLD BUSINESS**

The following proposed changes in the Society Constitution and Bylaws were approved by the House of Delegates on first reading in May 1983. If approved by the House of Delegates at the 1984 meeting, the changes become effective at that time.

CHAPTER I, Bylaws, Section 3, Dues Exemption. Add paragraph (c):

New Active members of the Society entering

practice in Arkansas shall be exempt from dues from the date of entry into practice until the next regular dues period. The following year, the dues assessment shall be at one-half the total amount. Thereafter, full dues are payable.

Delete CHAPTER V, Section 3, of the Bylaws, which reads:

Any person known to have solicited votes for or sought any office within the gift of this Society shall be ineligible for any office for two years.

CHAPTER V, Section 4, now reads:

No member shall be eligible to any office of this Society who is not in attendance at the meeting at which the election is held.

### **ADD TO THAT SECTION:**

Exceptions may be made by the House of Delegates if the nominee is unable to be present because of circumstances beyond his control.

(Subsequent sections of Chapter V would be renumbered.)

**RESOLUTION FROM THE BOONE COUNTY  
MEDICAL SOCIETY**

**RE: Emergency Medical Services**

WHEREAS, the Emergency Medical Services Board has discharged its responsibilities in a manner inconsistent with its responsibilities to the recipients of Emergency Medical Services in the State of Arkansas as exemplified by:

1. Restricting trained and qualified nurses from giving medicine, defibrillating and performing their usual duties in an ambulance;
2. Usurping the responsibilities of physicians to direct and give care at accident scenes.
3. Threatening to revoke ambulance service licensure when adequate and appropriate care is being rendered by qualified non-E.M.S. personnel.
4. Other self-serving regulations and services that act only to further escalate medical care cost and inhibit the use of equal or better trained personnel in emergency situations.

THEREFORE, BE IT RESOLVED that the E.M.S. Board should be restructured in such a manner as to insure optimum use of qualified personnel in emergency situations and also place the E.M.S. Board under the responsibility of the State Board of Medical Examiners, and

BE IT FURTHER RESOLVED that the Arkansas Medical Society be directed to seek legislative corrective action.

**NEW BUSINESS**

**Nominating Committee**

**W. P. Phillips, M.D., Chairman**

The Nominating Committee presents the following nominations for the officers of the Arkansas Medical Society for the year 1984-85:

President-elect: John P. Burge, M.D.,  
Lake Village

A. E. Andrews, M.D., Texarkana

First Vice President: Charles H. Rodgers, M.D.,  
Little Rock

Second Vice President: Mort Wilson, M.D.,  
Fort Smith

Third Vice President: Harvey Harmon, M.D.,  
Blytheville

Secretary: James R. Weber, M.D., Jacksonville

Treasurer: James M. Kolb, Jr., M.D., Russellville

Speaker: Amail Chudy, M.D., North Little Rock

Vice Speaker: Sybil Hart, M.D., Blytheville  
Councilors:

District 1: Larry Lawson, M.D., Paragould

District 2: John E. Bell, M.D., Searcy

District 3: L. J. Pat Bell, M.D., Helena

District 4: Paul A. Wallick, M.D.,  
Monticello

District 5: Cal Sanders, M.D., Camden

District 6: James D. Armstrong, M.D.,  
Ashdown

District 7: Ronald J. Bracken, M.D.,  
Hot Springs

District 8: William N. Jones, M.D.,  
Little Rock  
Frank E. Morgan, M.D.,  
North Little Rock  
Harold Purdy, M.D., Little Rock

District 9: Robert H. Langston, M.D.,  
Harrison

District 10: Ken Lilly, M.D., Fort Smith  
Delegates and Alternates to the American Medical Association (terms from 1-1-85 to 12-31-86)

Position 1: Delegate — Joe Verser, M.D.,  
Harrisburg  
Alternate — Richard Pearson,  
M.D., Rogers

Position 2: Delegate — A. E. Andrews, M.D.,  
Texarkana  
Alternate — George Warren,  
M.D., Smackover

**COMMITTEE ON MEDICAL LEGISLATION**

**James R. Weber, M.D., Chairman**

On behalf of the Committee on Medical Legislation, I would like to thank all those physicians who served as Physician of the Day, the many physicians who contacted their legislators during the 1983 regular Legislative Session, and those who provided input on various issues. I would also like to thank Mrs. Fritzie Means, R.N., who managed the dispensary each day of the session and worked closely with the Physician of the Day to provide medical services to the legislators, their families, and visitors at the Capitol. My special thanks go to the Society staff in Fort Smith for preparing and mailing our Alert, the newsletter used during the Legislative Session to inform the membership of bills pending and action going on



at the Capitol. In 1983, more than 30,000 such pieces of mail were sent to member-physicians as well as Auxiliary members.

Thanks also to my fellow members of the Legislative Committee who, prior to the Legislative Session, reviewed issues facing medicine and helped make a decision on our positions. Thanks also should go to Dr. Payton Kolb, who worked with us on all legislation pertaining to mental health. Dr. Elvin Shuffield worked with us at the Capitol during the Legislative Session and provided invaluable advice and counsel to our Capitol team. Few will ever fully realize the contributions Dr. Shuffield made to the Arkansas Medical Society and the people of our State.

Our Capitol team was made up of myself, Mike Mitchell, Society attorney, and Ken LaMastus, of the Society staff. Our efforts were greatly benefited by Mike Mitchell. We could not have functioned without his help.

As many of you know, there were fewer bills introduced in the Legislature than in the previous session, but a lot more bills were introduced that affected medicine. There were approximately 59 bills in this session that affected medicine and, to my knowledge, this was the largest number in history. This number does not include issues and amendments that were not put into bills.

Last year at the Annual Session, the House of Delegates approved a four-point program for legislative activities. If you remember, those four-points were: (1) to improve our contacts with state legislators (2) to establish the State Legislative Fund (3) for the Arkansas Medical Society to host a reception during the regular legislative session, and (4) to encourage physicians or members of their families to run for the Legislature. I would like to report to you that we are actively involved in all aspects of that program.

Dr. Asa Crow, Society president, Ken LaMastus, David Wroten, Mike Mitchell, and myself have visited many county medical societies and have reported to them our activities and solicited their support. Dr. Asa Crow has made each one of the visits and has visited more county medical societies than any recent Society president.

The State Legislative Fund was organized, by-laws were established, and a bank account opened. The trustees of the State Legislative Fund are myself, Dr. Asa Crow, and Dr. Payton Kolb, with

the current Society president serving as an ex-officio member.

Although we have not met all of our goals in terms of collecting funds, prior to the election we will have funds to contribute to candidates. The following is a list of names by county of those who contributed to the State Legislative Fund during 1983 (*1984 contributors are not included*). I encourage all physicians and spouses to help by contributing to this fund.

### 1983 CONTRIBUTORS TO AMS LEGISLATIVE FUND

#### Arkansas County

Noble B. Daniel  
John M. Hestir  
Hoy and Marolyn Speer

#### Ashley County

D. L. Toon

#### Baxter County

James S. Clarke  
Peter C. Dykstra  
David H. Roberts

#### Benton County

Vernon H. Carter  
Donald L. Cohagan  
Richard Pearson  
M. C. Reese  
Douglas C. Ronald

#### Boone County

Jean C. Gladden  
Rhys A. Williams

#### Carroll County

Oliver Wallace

#### Chicot County

Danny T. Berry  
John P. Burge

#### Craighead-Poinsett County

John A. Baldridge	Larry C. Sears
John H. Buckner	V. Glenn Sears
O. H. Clopton, Jr.	Floyd A. Smith, Jr.
Bill Garner	Joe H. Stallings
Clarence E. Gossett	Michael E. Tedder
William Robert Green	Joe W. Verser
Henry W. Keisker	Don B. Vollman, Jr.
D. J. Kroe	Joe T. Wilson
Robert Lassonde	G. D. Wisdom
James M. Robinette	William C. Young
A. H. Rusher, Jr.	

#### Crawford County

Millard C. Edds

#### Crittenden County

Milton D. Deneke  
C. Herbert Taylor

#### Desha County

Guy Robinson

#### Franklin County

C. C. Long  
John C. Smith

#### Garland County

R. V. Borg	Gopakumar Maruthur
Ronald J. Bracken	William R. Mashburn
Richard E. Braley	Robert McCrary, Jr.
E. K. Clardy	K. A. Seifert
James L. Gardner	Walter Shriner
E. L. Harper	Bruce L. Smith
Walter G. Klugh, Jr.	Tom R. Wallace

**Greene-Clay County**

Clark M. Baker	Clarence L. Kemp
Dwight F. Boggs	J. Larry Lawson
J. Darrell Bonner	Richard O. Martin
Roger Cagle	Bennie E. Mitchell
George H. Collier	B. C. Page
Jon D. Collier	Donald I. Purcell
Asa A. Crow	Jack G. Richmond
Hillard Duckworth	John Robert Sellars
R. Lowell Hardcastle	James Sheridan
M. P. Hazzard	Mack and Vern Ann Shotts
George A. Hobby	Robert B. White
B. W. Jones	Jacob M. Williams

**Independence County**

C. H. Day Jim E. Lytle

**Jackson County**

John D. Ashley	Rafik and Dalal Jacob
J. W. Carney	A. Bruce Junkin
Guilford M. Dudley	Ramon E. Lopez
Fran Duke	Roland C. Reynolds
John W. Foote	Sandra L. Snow
Jerry Frankum, Jr.	Jack S. Young, III
Jabez Jackson, Jr.	

**Jefferson County**

Calvin M. Bracy	Lloyd G. Langston
R. Teryl Brooks, Jr.	Ralph E. Ligon
Talluri S. Devi	Larry G. Lipscomb
Robert R. Gullett, Jr.	J. William Nuckolls
David C. Jacks	O. C. Raney
William Joe James	Paul L. Smith
Mahmood Ali Khan	Thomas E. Townsend

**Lawrence County**

Ralph F. Joseph

**Lee County**

Dwight W. Gray

**Little River County**

James D. Armstrong Joe G. Shelton, Jr.

**Miller County**

A. E. Andrews

**Mississippi County**

Jerry Biggerstaff	Gerald S. Husted
C. R. Cole	Herbert Jones
Sumner R. Cullom	Joe V. Jones
Eldon Fairley	C. G. Melton
Francis J. Fenaughty	Francisco G. Moreno
R. Scott Fergus	Merrill J. Osborne
Thomas C. Flannigan	George D. Pollock
Harvey C. Harmon	Stephen R. Rauls
Sybil and W. A. Hart	R. F. Rhodes
George B. Higley, Jr.	Hunter Sims, Jr.
E. L. Hogue	W. W. Workman
Charles M. Holzner	

**Nevada County**

Michael C. Young

**Ouachita County**

J. B. Jameson, Jr. Cal R. Sanders

**Phillips County**

Gordon E. McCarty, Jr. Francis M. Patton

**Polk County**

David D. Fried

**Pope County**

Ted E. Ashcraft	W. H. Lane, Jr.
Nathan F. Austin	Frank Lawrence
James G. Burgess	D. H. Lowrey
Joe B. Crumpler	Don C. Riley
William W. Galloway	Charles F. Wilkins
J. A. Henry	Sandra Young
James M. Kolb, Jr.	

**Pulaski County**

Les Anderson	Steve Marks
Johnson J. Baker	Robert R. Matthews
David L. Barclay	J. D. McConnell
Norbert J. Becquet	George A. McCrary
David W. Bevans, Jr.	James E. McDonald
Raymond V. Biondo	James R. McNair
Donald G. Browning	Forrest B. Miller, Jr.
Thomas A. Bruce	Mr. Michael W. Mitchell
Joseph K. Buchman	J. Malcolm Moore
Anthony P. Bucolo	Frank E. Morgan
J. Dale Calhoun	James R. Morrison
Joseph D. Calhoun	William J. Morton
James W. Campbell	Alvah J. Nelson
Kelsy J. Caplinger	Robert D. Nelson
Jerry C. Chapman	David H. Newbern
Daniel P. Chisholm, Jr.	George A. Norton
Amail Chudy	Joseph A. Norton
Steven Clift	Terrence A. Oddson
Jock S. Cobb	Walter H. O'Neal
H. Howard Cockrill, Jr.	J. Mayne Parker
J. B. Cross	Norman R. Pledger
R. Lewis Crow	Norton A. Pope
Glenn V. Dalrymple	Jerry L. Potts
Joe D. and John L. Daugherty	Robert C. Power
Daniel C. Dillard	Jerry L. Prather
W. M. Douglas	Harold D. Purdy
James W. Durham	John M. Ransom
Jack Fendley	Ewing C. Reed, Jr.
Charles R. Fielder	George Regnier
Robert H. Fiser, Jr.	P. E. Rice
Henry H. Good	Orval E. Riggs
C. Don Greenway	William H. Riley
John L. Gustavus	Charles H. Rodgers
A. David Hall	F. H. Roy
Alastair D. Hall	Ben N. Saltzman
W. Turner Harris	Bruce E. Schratz
R. E. Harrison	Jan W. Scruggs
Vale Harrison	H. Elvin Shuffield
Richard Hayes	L. G. Singleton
W. Ducote Haynes	C. Kemp Skokos
James W. Headstream	Douglas F. Smart
Bill F. Hefley	David E. Smith
David C. Hicks	Mose Smith, III
Jerry C. Holton	Purcell Smith, Jr.
B. Richard Johnson	Thomas J. Smith
Dale E. Johnston	Jack Sternberg
Ray Jouett	Charles D. Sullivan
W. Payton Kolb	S. B. Thompson
Robert C. Landgren	Cynthia W. Weber
Marvin and Lee Liebovich	James R. Weber
Charles W. Logan	John B. Weiss
Dennis D. Lucy, Jr.	F. M. Westerfield, Jr.
Gary S. Markland	Ronald N. Williams
	Douglas E. Young



### Sebastian County

Robert C. Barker, Jr.	Charles S. Lane, Jr.
A. Calvin Bradford	Ken Lilly
Raymond C. Goodman	Franklin M. Lockwood
Archie L. Hewett	W. P. Phillips
J. F. Kelsey	Taylor Prewitt
A. S. Koenig	Boyd M. Saviers
A. Samuel Koenig	Robert L. Sherman
Kemal E. Kutait	Robert J. Thompson
Mr. Kenneth LaMastus	Rowland P. Vernon, Jr.
Samuel & Annette Landrum	Paul I. Wills

### Tri-County County

Michael Moody

### Union County

Jacob P. Ellis	Robert L. Parkman, Jr.
Walter John Giller, Jr.	George W. Smith
J. Schuler McKinney	Aubry Talley
Robert L. Parkman	

### Washington County

Spencer D. Albright, III	C. R. Magness
Stanley Applegate	J. E. McDonald, II
George R. Cole	William R. McNair, Jr.
Grady Glen Fincher	William C. Mills, III
Murray T. Harris	Earl B. Riddick, Jr.
Martha Hutson	

### White County

John E. Bell	Larry W. Weathers
Hugh R. Edwards	

### Yell County

Jerry F. Hodges	Gene D. Ring
Jerome H. Luker	Gary W. Russell
James L. Maupin	

### Sub-Committee on National Legislation

#### W. Payton Kolb, M.D., Chairman

The Arkansas Medical Society works closely with the Washington Office of the AMA in monitoring national legislation concerning health matters. Many bills are introduced in Congress either directly concerning health matters or other bills having amendments attached to them concerning health matters. Many of these are not controversial and many are introduced at the request of organized medicine. Some, however, do present problems for which active participation by organized medicine becomes important.

Judicial decision and executive orders involving health matters are also carefully monitored and when necessary direct action is taken by whatever method is available to do so. Frequently the AMA Washington Office will contact the state and county offices for assistance in contacting the appropriate people, particularly Congressmen and Senators concerning legislation critical to health matters. Frequently this is on an emergency basis due to the way that committee actions and House and Senate actions may occur. The Arkan-

sas Medical Society has responded vigorously when such issues have arisen.

Time doesn't permit evaluation of all the issues coming before the Congress, the courts, or the Executive Branch. There have been some critical issues, however, during the past year.

The "Baby Doe" regulations are still in much controversy. After much pressure from organized medicine, the original regulations were modified. They were scheduled to become effective February 13 of 1984. At the writing of this report, organized medicine has requested the effective date be deferred; however, there has been no response to that request. Organized medicine still opposes Government regulations stepping between the physician and the patient, including the family. All actions have been directed to pointing out the importance of the physician/patient relationship and that all of these situations must be handled on an individual basis. The regulation requiring a posting of notices where "nurses and other medical professions who care for infants can see them" are still required. This includes the posting of telephone numbers where deviations from the regulations can be reported.

There are several points of litigation in the courts at the time of this writing and organized medicine is still very actively pursuing the concept of the practice of quality medicine and the preservation of the patient, physician, and family relationship.

The other critical item involved proposed legislation making mandatory the acceptance of assignment by physicians for in-patient Medicare patients. This included forcing hospitals to enforce the requirement by withdrawing hospital privileges from physicians who would not accept such assignment. The bill also called for a roll-back of physician reimbursement to June 30, 1983. This was to be effective from January 1, 1984, to June 30, 1984. This legislation was to remain in effect until a plan for DRG reimbursement plans for physician fees were put into effect.

Much contact from organized medicine, including the Arkansas Medical Society, was made with members of Congress. The Ways and Means Committee defeated the proposal by the narrow margin of 18 to 15. They did agree, however, to let the proposal go to the floor of the House with other legislation. A parliamentary problem involving a rule to control debate on the proposals

was highly controversial and defeated. This stopped the action for the first session of the 98th Congress. It is fully expected this will be brought up again in the second session of the 98th Congress and at the time of the writing of this report such action has not been taken. The Arkansas Medical Society will react when notified by the AMA Washington Office of the appropriate time and our Congressional Delegation will be notified of the threat to quality patient care by such legislation.

The Arkansas Medical Society is dedicated to doing everything possible to preserve high quality medical care and the preservation of the doctor/patient relationship. Also, it is dedicated to preserving the rights of the physicians, recognizing that the preservation of such rights contributes to preservation of good quality medical care in our State and in our nation.

#### **Sub-Committee on Maternal and Child Welfare**

**Robert H. Fiser, Jr., M.D., Chairman**

We have had one meeting of the Sub-Committee on Maternal and Child Welfare. At that time, Dr. Frank Miller, the new Obstetrical/Gynecology Chairman at the University of Arkansas College of Medicine, was introduced to the committee. He gave his ideas on regionalization of obstetrical care and stimulated further interest by discussing Dr. John Morrison's work with the Legislature in developing a statewide maternal system in Mississippi.

This Sub-Committee feels its primary responsibility should be to develop a system that would link the physicians with hospitals in the State toward a tertiary unit of maternal care in the central Arkansas area, much like the regionalized newborn program. A major difficulty has been the funding of the indigent care load and this has been brought to the attention of the Governor, Head of Social Services, and Head of Human Services.

I think support from the Medical Society for regionalized maternity care for the low risk pregnant woman as well as pregnancy being a disease that would enable one to become more eligible for benefits would be a benefit to the committee.

#### **Committee on Continuing Medical Education**

**J. Larry Lawson, M.D., Chairman**

The primary function of the Committee on Continuing Medical Education is addressing issues involving the continuing medical education of

physicians, and the most important—accrediting, by authority given the Society by the Accreditation Council for Continuing Medical Education, organizations and institutions in the State which offer continuing education programs. The University of Arkansas, including the Area Health Education Centers, receives their accreditation directly from the Accreditation Council For Continuing Medical Education.

The following organizations have been certified this year by members of the committee and re-accredited. They are Baxter General Hospital in Mountain Home, Baptist Medical Center in Little Rock, and the Arkansas Academy of Ophthalmology. Other accredited organizations are Arkansas Children's Hospital in Little Rock, Arkansas Medical Society Committee on Scientific Programs, St. Joseph's Regional Health Center in Hot Springs, Memorial Hospital in North Little Rock, St. Vincent Infirmary in Little Rock, and Veterans Administration Medical Center in Fayetteville. St. Joseph's Regional Health Center and Arkansas Children's Hospital are to be resurveyed prior to the Annual Session.

One of the goals of this committee was to make accredited educational programs available to physicians across the State of Arkansas that are both reasonably affordable and convenient. At this time, we are proud to report that, in general, all areas of the State have continuing education programs available within reasonable driving distance. This, of course, includes those activities available at the University of Arkansas for Medical Sciences and the Area Health Education Centers.

The Accreditation Council for Continuing Medical Education, the national body which has the responsibility of accrediting organizations, has adopted a new set of Essentials for Accreditation which became effective the first of 1984. The Arkansas Medical Society serves as a surveying team for the Accreditation Council For Continuing Medical Education.

The new Essentials for Accreditation of Sponsors of Continuing Medical Education read as follows:

#### *Essential #1*

The sponsor shall have a written statement of its continuing medical education mission, formally approved by its governing body. The mission statement shall:



1. Describe the goals of the overall CME program in a concise manner.
2. Indicate the scope of the CME effort.
3. Outline the characteristics of the potential participants.
4. Describe the general types of activities and services provided.

#### *Essential #2*

The sponsor shall have established procedures for identifying and analyzing continuing medical educational needs and interest of prospective participants. The sponsor shall:

1. Document the processes used to identify CME needs, including data sources which go beyond the sponsor's perception of need.
2. State the overall needs identified by the above processes and indicate how this assessment is used in planning educational activities.

#### *Essential #3*

The sponsor shall have explicit objectives for each CME activity. The sponsor shall:

1. State the educational need(s) which the individual activity addresses.
2. Indicate the physicians for whom the activity is designed.
3. List any special background requirements of the prospective participants.
4. Highlight the instructional content and/or expected learning outcomes in terms of knowledge, skills, and/or attitudes.
5. Make these objectives known to prospective participants.

#### *Essential #4*

The sponsor shall design and implement educational activities consistent in content and method with stated objectives. The sponsor shall:

1. Design and implement educational activities responsive to the characteristics of prospective participants, such as knowledge levels, professional experience, and preferred learning styles.
2. Document use of systematic planning procedures.
3. Make educational content and methods known to prospective participants.

#### *Essential #5*

The sponsor shall evaluate the effectiveness of its overall continuing medical education program and component activities and use this information in its CME planning. The sponsor shall:

1. Periodically review the extent to which the sponsor's CME mission is being achieved by its educational activities.
2. Show that these evaluations assess: (a) the extent to which educational objectives are being met; (b) the quality of the instructional process; (c) participants' perception of enhanced professional effectiveness.
3. Use evaluation methods which are appropriate and consistent in scope with the educational activity.
4. Demonstrate that evaluation data are used in planning future CME activities.

#### *Essential #6*

The sponsor shall provide evidence that management procedures and other necessary resources are available and effectively used to fulfill its continuing medical education mission. The sponsor shall:

1. Document an organizational structure for CME and its administration, designating an entity responsible for CME and delineating its authority.
2. Identify responsible individuals who will maintain continuity of administration.
3. Describe an internal review and control procedure, including budgetary practices, to ensure effective utilization of resources in fulfilling the CME mission.
4. Provide a budget for the overall CME program and its major components.
5. Utilize competent faculty.
6. Provide appropriate facilities for CME programs.
7. Have mechanisms to record and, when authorized by the participating physician, to verify participation.

#### *Essential #7*

The sponsor shall accept responsibility that the Essentials are met by educational activities which it jointly sponsors with non-accredited entities. The sponsor shall:

1. Provide evidence that it participates integrally in the planning and implementation of each jointly sponsored CME activity.
2. Conduct an evaluation of each jointly sponsored activity.

\* \* \* \*

In the event of an appeal of a review resulting in a non-accredited status, the organization may request re-evaluation by the entire Continuing

Medical Education Committee. In the event that the full CME committee still denies accreditation and the organization wishes further appeal, the ultimate authority in this case shall be the full Council of the Arkansas Medical Society.

The Committee on Continuing Medical Education has recommended the adoption, by the Arkansas Medical Society, of the Essentials mentioned above, as well as the appeal process. The committee also recommends that the fee for processing an application be increased to \$250. This increase is required because ACCME will, in the future, require the Arkansas Medical Society to pay an annual fee in addition to the cost of ACCME surveying the Society for its continued role as a surveying organization.

I want to thank all the committee members, especially those who contributed their time and efforts in participating in the surveying of organizations.

#### **Committee on Hospitals**

**Robert B. Benafield, M.D., Chairman**

The Hospital Committee of the Arkansas Medical Society met on September 21, 1983, at the Blue Cross and Blue Shield Building in Little Rock. After lengthy discussion, it was the consensus of the committee to ask Dr. Long to place the recommendations of this committee on the agenda at the Council meeting scheduled for October 30. Dr. Benafield did appear before the Council and presented the following recommendations at that time:

1. The Council should approach the Arkansas Hospital Association to establish an on-going committee to work closely together in matters related to Diagnosis Related Groups (DRG's) and also suggest to them that they have regular meetings concerning this matter.
2. The committee felt it was extremely important that physician education concerning DRG's be included in the public relations regional front office meetings. The committee also recommended that the Society take the role in matters concerning DRG's and set up workshops, seminars, etc., to accomplish this physician education.
3. The committee also felt it would be worthwhile to discuss the possibility of including speakers who are knowledgeable about DRG's for the program of the next Medical Society convention.

These recommendations were approved by the Council at the meeting on October 30.

Dr. Benafield also met with the Executive Committee of the Council on November 23, 1983. It was decided at that time that the Council wanted to utilize the Hospital Committee and noted that Dr. Long was to contact the Arkansas Hospital Association concerning these recommendations.

#### **Public Relations Committee**

**Milton Deneke, M.D., Chairman**

During the last Annual Session, an award was given to an individual outside the medical profession for outstanding contributions to health care in Arkansas. The "Layperson" Award went to Harvey Jones of Springdale, owner of Jones Truck Lines. That marked the beginning of a busy year for the Public Relations Committee. Beginning with this year's Annual Session, the layperson award will become a memorial in honor of Drs. Joe and Elvin Shuffield.

The committee co-sponsored, along with the AMA, a total of seven seminars for office personnel and physicians. The seminars, "Scheduling and Collection Management" for medical assistants, and "Marketing" and "Gearing Up for Retirement" for physicians, had a combined attendance of 271 for an average of 38 per seminar. An other round of seminars will be offered this fall.

In October 1983, David Wroten, an MBA graduate of Arkansas State University, was employed as Professional Relations Coordinator. His major area of concentration is to be in public relations, although he will also be involved in activities of the Legislative Committee.

The "Speaker's Bureau" is in the process of being updated to provide media and public access to answers on health care issues. In addition, physicians are being asked to write news articles and columns as well as accepting interviews from reporters. The "Medical Hotline" will be created to provide members of the media with respondents to issues of public interest.

Also, the ARN network program "House Call", aired every Monday morning, is being continued. Currently, this program concentrates on providing information on various ailments and prevention/cure. This will be expanded to include topics on cost containment and other socioeconomic issues of public importance.

An informational paper entitled "Alternate De-



livery and Financing Systems" was prepared and made available to Society members. This explained the major types of systems such as HMO's, PPO's, and IPA's that are springing up throughout the country.

By recommendation of the Committee, the Council issued a letter of commendation to KARK-TV, KATV-TV, and KTHV-TV. These Little Rock television stations were recognized for their increased coverage of health care issues.

Another Committee recommendation to endorse the American Coaching Effectiveness Program (ACEP) was also approved by the Council. Aimed at volunteer coaches, ACEP provides them with sixteen hours of training designed to provide a basic understanding of sports medicine and science and show them how to teach more effectively the techniques of their particular sport. We will be working closely with ACEP's State Director, Mike Daniels, Ph.D., of the University of Arkansas, to promote the program in Arkansas.

Other areas being examined by the committee are the possibilities of television programming, an annual award to a member of the press for outstanding coverage or reporting of health care issues, using AMA public service announcements, a special public relations newsletter, and recognition emblems for Medical Society and Auxiliary members. We are also in the process of developing communication channels with other medical societies to exchange ideas.

Furthermore, the committee would like to recommend adoption of the following resolution:

**Public Relations Committee Resolution on Providing Medical Services to the Unemployed**

WHEREAS, the Arkansas Medical Society has recognized the number of individuals who have lost their health insurance benefits due to unemployment, reductions in federal and state programs, and other reasons through no fault of their own; and

WHEREAS, many physicians have in the past and are presently actively and voluntarily caring for these individuals as well as others who are unable to pay for needed medical care, and

WHEREAS, the Arkansas Medical Society encourages this age-old principle of the medical profession,

BE IT THEREFORE RESOLVED, that the Arkansas Medical Society commends its members who voluntarily provide free or reduced fee ser-

vices to people who have lost their health care benefits, and

THAT, the Arkansas Medical Society wishes to encourage all physicians to participate in this humanitarian effort to provide quality health care to the people of Arkansas.

**Sub-Committee on State Health and Medical Resources for Civil Defense  
Charles H. Rodgers, M.D., Chairman**

The above-named Committee met on January 29, 1984, at the Arkansas State Health Department as a guest of Dr. Ben Saltzman, Director. The meeting was called by Charles H. Rodgers, M.D., Chairman. Attending the meeting were Committee members, Alvin Strauss, M.D. and Walter Shriner, M.D. Representing the State Health Department were Ben Saltzman, M.D., Martin Tull, Leon Brown and Anna M. Styn. Representing the Office of Emergency Services was David Maxwell. Other attendees included David Wroten of the Arkansas Medical Society Staff and representatives from the American Red Cross and United States Air Force Hospital at the Little Rock Air Force Base. Dr. Ryland Mundie represented the Emergency Medicine Department at the University of Arkansas Medical Center and Dr. John Wolverton represented Physicians for Social Responsibility. Dr. Marvin Leibovich represented the Arkansas Chapter of American College of Emergency Physicians and Mark Bowman represented the Pulaski County Sheriff's Department.

The reason for the meeting was to better define the role of the private physician in a civil disaster. This Committee, in their report to the House of Delegates April 1982, stated there was reportedly a State plan for civil disasters but they were unable to get a copy of this plan. They challenged this year's committee to: (1) Better define our role in civil disasters. They had specific concerns about the transfer and disposition of toxic waste materials in the state; (2) Incorporate concepts of Emergency Disaster planning into the medical education curriculum at the University of Arkansas Medical Center.

The purpose of the meeting was three-fold: (1) To define the state health resources that are responsible in case of a disaster that threatens the health and welfare of our state citizens; (2) To decide if these resources are adequate; (3) To insure that all resources are coordinated to assume maximum preparedness and efficiency.

A summary of the discussion and partial an-

swers to the above questions are as follows: The main principal that has the responsibility for a state emergency plan is the Arkansas State Health Department. They have their authority through the Arkansas Emergency Services, Act 511 of 1973. Other departments with direct responsibility are the Office of Emergency Services in Conway and the Department of Pollution Control and Ecology. After reviewing the "Red Book", which is the Emergency Operation Plan of the State of Arkansas, it was the general consensus that there is a basic plan that could serve the state well in case of a major disaster. However, it was the concern of many who attended the meeting that there is a lack of widespread awareness of such plan and the plan is not well coordinated and defined as to assure maximum preparedness and efficiency. The Emergency Operation Plan is a large system which includes many agencies, offices, divisions and bureaus and there is apparent need for a full-time coordinator for the State plan. Apparently this position was depleted in 1980 due to lack of funds. There was also a concern by the private practicing physicians concerning communication and cooperation between the state agencies and the medical community at large. A concern surfaced that the Office of Emergency Services could not provide enough paramedics and emergency technicians to take care of triage in the field outside the hospitals should a major disaster occur. Several on the Committee suggested that we look at the possibility of a physician coordinator with expertise in disaster medicine to fulfill this role. The Committee set as its mission to deliver the best medical care possible in case of a disaster to our patients and citizens of our State. We feel that our Committee is more of an advisory and information seeking committee. We agree with the State Health Department Plan that the program should start at the local government level and the plan is structured on that premise at the local, city and county government levels. They will respond first to a disaster and call for the State and Federal resources if needed. The plan basically involves local city and county government with the county judge as director and, in most instances, he has an emergency coordinator. In some instances, this is a volunteer physician; in other cases, it may be a county health officer. Some of the counties do not have the above-described coordinator or the coordinator is a lay person named by the county judge. Some of the larger cities have their own emergency coordinator. It was

the Committee's feeling that the state plans and resources were probably adequate but need to be better coordinated with the medical community. It was felt that since all hospitals should have a disaster plan, which is a requirement of the Joint Commission on the Accreditation of Hospitals, that the missing link was the health officer or private physician to serve as a coordinator between the hospitals and government agencies. Other agencies such as law enforcement, fire control, and national organizations such as the American Red Cross are important resources in a civil disaster.

The Committee's recommendations are as follows:

1. To seek legislation to provide funds to create a position for coordinating all the State's emergency medical systems.
2. To ask the State Medical Office to collect a list of county health officers and county medical society chairmen of their civil defense and disaster committees.
3. To help develop a model of a standard operating procedure and a check list in case of a disaster to aid medical societies in each of the counties in the State.
4. To pursue with the State Health Department and Office of Emergency Services the concept that more physician input is needed in triage.
5. To help disseminate information to better educate the physician and the public on civil defense preparedness.
6. To offer assistance and recognition to Dr. Ryland Mundie, Director of Emergency Services at University of Arkansas Medical Center, in his effort to incorporate into the curriculum experience and education for medical students and house officers in preparing for civil disaster.
7. To recommend periodic disaster drills both on a local level and possibly a periodic wide-scale disaster drill covering larger areas of the state.
8. To identify and start a roster of physicians who have expertise in the field of civil disaster so that we can better utilize these resources in the medical community.
9. To check with our parent organization, the American Medical Association Council on National Security and its Commission on Disaster Medical Care, to assist us in our goals.
10. To encourage seminars and physician education in disaster medicine.



11. To increase organized medicine's involvement in disaster planning.

Presented as information to the Arkansas Medical Society Journal and as a partial report to the House of Delegates at the Arkansas Medical Society Annual Meeting. April, 1984.

#### **Annual Session Committee**

**Charles H. Rodgers, M.D., Chairman**

The 108th Annual Session of the Arkansas Medical Society will be held at the Excelsior Hotel and the Statehouse Convention Center in Little Rock, April 12th-15th, 1984. The members of the Annual Session Committee are: Charles H. Rodgers, M.D., Chairman; Dr. Kelsy Caplinger; Dr. Richard O. Martin; Dr. Larry Lawson; Mrs. Frank Morgan, Ex-Officio; Dr. Thomas Bruce; Dr. John H. Delamore; Dr. Ken Lilly; Dr. Robert Casali. The host district for the 1984 Program is Pulaski County which includes councilors, Dr. Ray Jouett, Dr. Harold Purdy, Dr. Frank Morgan, Dr. William Jones and Dr. Charles Logan.

At the first meeting of the Annual Session Committee at Little Rock on September 18, 1983, the Chairman appointed several subcommittees as follows: The Scientific Program Subcommittee Chairman, Dr. Thomas Bruce. Members of this Committee are Dr. John H. Delamore, Dr. Ken Lilly, Dr. Robert Casali, Dr. Kelsy Caplinger, Dr. Richard O. Martin and Dr. Larry Lawson. The Social Subcommittee is Dr. and Mrs. Frank Morgan, Dr. and Mrs. Charles Logan. The Speaker Host Chairman is Dr. William Jones. Prayer Breakfast Liaison is Dr. Ray Jouett. Tennis and Racquetball Committee Chairman is Dr. Harold Purdy. The Golf Committee includes Dr. John H. Delamore and Dr. John Satterfield. Dr. Kelsy Caplinger was asked to serve as Chairman of the Memorial Service. Dr. Robert Casali will serve as Chairman of the Subcommittee on Scientific Exhibits. The Committee deliberated for some time and chose "Management of Chronic Disease" as the theme for this year's meeting.

The Committee met again on October 30, 1983. At this time a tentative scientific program was presented by Dr. Bruce and the tentative speaker agenda was approved. In addition, the Committee recommended that we invite Dr. Hugh Ritter from St. Louis to be our representative to this year's Annual Meeting from the American Medical Association Board of Trustees. We also decided to sponsor a 5K Fun Run and this is to be

sponsored by Meadox.

The program will start on Thursday, April 12th, with a Socio-Economic Seminar to be held following the House of Delegates Meeting on that day. There will be outstanding speakers and panel members to present information to our members on Diagnosis Related Groups (DRG's) and Alternate Delivery Financing Systems (ADFS) in the nation and in Arkansas. There will be a reception by Blue Cross-Blue Shield on Thursday evening. On Friday morning, the scientific session will begin with outstanding speakers covering a myriad of medical information related to the "Management of Chronic Diseases".

The scientific lecture will resume Saturday morning. On Friday night, there will be a Council reception with other social events to be presented at a later date. Saturday night will be the installation of officers with a formal dinner dance to honor our incoming President, Dr. Charles Wilkins.

A complete schedule of both social, business and scientific sessions is reported elsewhere in this Journal.

Subcommittees and Ms. Leah Richmond met on several other occasions to work out many details necessary to present what the Committee feels will be an outstanding Annual Meeting. The Chairman would like to thank the above-named committee members for the hard work and time they gave to this committee. The Committee would like to thank Ms. Leah Richmond and the entire staff of the Arkansas Medical Society for their guidance, advice and all their hard work. They have given the details that must be carefully and diligently taken care of in order to insure a tradition of outstanding Annual Meetings of the Arkansas Medical Society.

#### **Committee on Position Papers**

**James M. Kolb, Jr., M.D., Chairman**

The Committee on Position Papers has the responsibility of developing the Arkansas Medical Society's official position on various topics and recommending the position paper to the Council. Topics to be considered are recommended by members of the committee and various members of the Medical Society, as well as the Council and House of Delegates.

Since the last meeting of the House of Delegates, the committee has met three times and developed and referred papers to the Council.

These papers appear in another portion of this Journal under the Report of the Council.

Position papers referred to the Council this year were on the following topics: Supply and Distribution of Physicians, Execution by Lethal Injection, and Lay Midwifery. Four other papers are currently under consideration and a portion of these will be referred to the Council prior to the Annual Session in 1984. These are: The Arkansas Medical Society, Alternate Delivery and Financing Systems, Pronouncement of Death, and Involuntary Commitment to a Mental Facility.

I would like to express my thanks to the members of the committee and the Society staff for their work this year.

Since its inception in 1981, this committee has developed or has under consideration twenty-five different topics important to medicine.

**Professional Relations Committee  
for Eighth Councilor District  
James R. Rasch, M.D., Chairman**

Over the past year, our committee has dealt or is in the process of dealing with three complaints. These problems have been handled either by the chairman or with telephone consultations and it has not been necessary for our group to formally meet. No problems of any major significance have been encountered.

**Professional Relations Committee  
for Ninth Councilor District  
Charles A. Ledbetter, M.D., Chairman**

The Ninth Councilor District Professional Relations Committee responded to two complaints in the period from April 1983. One complaint involved the delivery fee in an obstetrical case of an unassigned patient presenting to an area emergency room. The complaint was without merit and it was the recommendation of the committee that no action be taken against the physician; furthermore, that he performed in a manner which was consistent with acceptable medical practice, and that no further action was deemed necessary.

The second grievance was resolved without complaint.

**Professional Relations Committee  
for Tenth Councilor District  
S. E. Landrum, M.D., Chairman**

The Tenth Councilor District Professional Relations Committee has, fortunately, only had two

problems to review this past year. They both involved different physicians regarding fees. One was a bit complex to settle in that the fee charged was different than the one that had been predicted by the surgeon preoperatively. This case is instructive in the view of the committee on that basis. The second problem related to a patient getting a duplicated bill, which was corrected actually prior to the complaint reaching us.

**Report of Councilors for the Fifth District  
George W. Warren, M.D., Councilor  
Cal R. Sanders, M.D., Councilor**

The Fifth Councilor Medical District held its annual meeting at the El Dorado Country Club on January 10, 1984. Representations from all counties involved were present at the meeting with a very good total turnout. Election of officers resulted in Dr. George Smith of El Dorado being elected President; Dr. Richard Pillsbury, Secretary; Dr. Cal Sanders was renominated for position of Councilor.

Mr. Gene Hartsell of the Arkansas Foundation presented a most interesting talk on DRG's and the involvement of the Arkansas Foundation with the implementation of the program in the State of Arkansas. He discussed the fact that some states not having had Professional Review Organizations are faced with having PRO's that are not medically oriented supervising their charts. His talk was appreciated by all physicians in attendance.

**Report of Councilors for the Eighth District  
W. Ray Jouett, M.D., William N. Jones, M.D.,  
Charles Logan, M.D., Harold Purdy, M.D.,  
Frank Morgan, M.D., Councilors**

Meetings were held during the year devoted to the following subject:

1. A program on the Preferred Payment Plan of Arkansas Blue Cross-Blue Shield.
2. A discussion of legislative matters by Dr. Morris Henry, President of the Arkansas Medical Society.
3. A presentation on the subject of radiation concerns.
4. A program devoted to current information on tax shelters.
5. A special business meeting.
6. Annual Wives' Night Dinner.
7. A program by a former Canadian physician on the political aspects of the practice of medicine in Canada.



Participated with the Auxiliary in sponsoring a basketball game between attorneys and physicians as a fund-raising event for the nursing scholarship fund.

Provided three camping scholarships for Med Camps of Arkansas and contributed to the fund to help construct a swimming pool at the camp.

Adopted a resolution supporting the Arkansas Medical Society's Auxiliary in their public service programs.

Awarded a medical scholarship to a freshman medical student in the amount of \$3,500.00.

Maintained liaison with the Arkansas Legislature through the Society's Legislative Committee.

Contributed financially to the athletic program of the freshman class at the University of Arkansas College of Medicine.

Signed a contract with GTE to be the distributor of the MINET Program.

#### **REPORT OF THE COUNCIL**

**John P. Burge, M.D., Chairman**

The Council of the Arkansas Medical Society met on Sunday, July 10, 1983, at the Camelot Hotel in Little Rock and transacted the following business:

1. Chairman Burge presented a memorial resolution honoring Elvin Shuffield, who was serving as secretary of the Society at the time of his death. The resolution was unanimously adopted by the Council and a moment of silence was observed in memory of Dr. Shuffield.
2. The Council voted to recommend to the House of Delegates that Dr. Shuffield be named an honorary past president of the Arkansas Medical Society.
3. The Council approved appointment of a committee to investigate establishment of an appropriate memorial to Dr. Shuffield and make recommendations for consideration of the Council.
4. Chairman Burge requested nominations for the office of secretary of the Society. Drs. Ray Jouett and James Weber were nominated. Dr. Weber was elected to the position by secret ballot.
5. The Council voted to reappoint Dr. Jean Gladden of Harrison to a four-year term on the Board of Directors of the Medical Education Foundation for Arkansas.

6. The Council voted to recommend to the Governor that Dr. Guy Farris be reappointed to the Long Term Care Facility Advisory Board for a three-year term.
7. Mr. Pistole of Blue Cross-Blue Shield discussed the experience rating for the Society's group plan and possible options for changing benefits to reduce the rate for participants. The Council voted to poll the plan participants regarding plan options and results of the poll be reported to the Council for action. The Council voted to request that the Insurance Committee investigate other avenues of health plan coverage for a Society group.
8. Dr. Martin Eisele, president of the Medical Education Foundation for Arkansas, discussed the tax-exempt status and financial standing of the Foundation. The Council gave approval to whatever action the Board of Directors of the Foundation felt necessary, within reason, with regard to the tax-exempt status of the Foundation. Chairman Burge requested that Dr. Eisele report back to the Council on action taken by the Board of Directors of MEFFA.
9. Dr. Gilbert Buchanan and Mr. Orvil Burks discussed the State Health Plan for the School Health Curriculum Project (Berkeley Model). The Council voted its support of the program.
10. Dr. Milton Deneke, chairman of the Public Relations Committee, discussed a proposed film on the problem of driving while intoxicated to be produced by the Arkansas State Police. Mr. Sims and Sergeant Young of the State Police discussed the project and urged the Society to become a sponsor. The Council voted to contribute \$7,860 toward production of the film.
11. Chairman Burge presented the proposed job description and estimate of costs involved for adding to the full-time staff of the headquarters office for public relations activities. Dr. Long discussed the job description and indicated that the position was really for a full-time fieldman. Dr. Warren moved that the Council forthwith take steps to institute the program. Dr. Weber made a substitute motion to change the job title to "professional relations" rather than "public relations" and listed areas of work as (1) educating members, (2) establishing better

grassroots relationship with the membership, (3) increasing political activity on a local basis, and (4) increasing the membership, with the thrust of the proposal being a professional relations position, but with the individual working in both areas. Both motions received unanimous approval of the Council.

12. Dr. James Weber, chairman of the Committee on Medical Legislation, presented proposed "Articles of Association of AMS State Legislative Committee." There was discussion by the Council and amendments to wording of Articles proposed:

- (1) In Article 5 delete reference to citizenship.
- (2) In Article 10, change to provide for removal by *majority* vote of the Council and deleting provision for removal by trustees.
- (3) In Article 12, add provision for dissolution to be approved by the House of Delegates.

In response to a question, the ex-officio member referred to in Article 8 was interpreted to mean "non-voting" member.

The Council accepted the Articles with amendments proposed.

The Articles as revised are as follows:

#### ARTICLES OF ASSOCIATION OF AMS STATE LEGISLATIVE COMMITTEE

ARTICLE 1. *Name.* The name of this Association shall be AMS State Legislative Committee (hereinafter referred to as the "Committee").

ARTICLE 2. *Principal Office and Address.* The principal office of the Committee shall be located in Fort Smith, Arkansas.

ARTICLE 3. *Organization and Membership.* The Committee shall be a voluntary, nonprofit, unincorporated association operating as a separate, segregated fund from the Arkansas Medical Society. The membership of the Committee for each calendar year shall be those members of the Arkansas Medical Society who have made a financial contribution to the Committee in that calendar year.

ARTICLE 4. *Purposes and Powers.*

Section 1. The purpose of this Committee is to provide the opportunity for individuals interested in Legislative matters

pertaining to Arkansas medicine to contribute to the support of worthy candidates for State office, including the Arkansas Legislature and State Constitutional officers, who the Committee believes are sensitive to issues affecting the quality of medical care in the State of Arkansas. To further these purposes, the Committee is empowered to solicit, directly or indirectly, and to accept financial contributions and to make expenditures in connection with the attempt to influence the selection, nomination or election of individuals to State office in Arkansas.

Section 2. The Committee shall possess and may exercise all powers and privileges set forth in these Articles together with all powers and privileges necessary or convenient to the conduct, promotion or attainment of the purposes of the Committee.

ARTICLE 5. *Participation.* Any person or entity may be eligible to contribute to the Committee.

ARTICLE 6. *Contributions.*

Section 1. All contributions of the Committee shall be voluntary and no contribution to the Committee shall be solicited or secured by physical force, job discrimination or financial reprisal or threat thereof, or as a condition of employment.

Section 2. Basic policies with respect to the expenditure or distribution of all contributions to the Committee shall be within the sole discretion of the Trustees of the Committee. At least one meeting of the entire membership of the Committee shall be held each calendar year at the time and place designated by the Board of Trustees.

ARTICLE 7. *Separate Segregated Fund.* All contributions to the Committee shall be maintained by the Committee as a separate segregated fund in one or more designated depositories, and all expenditures by the Committee in support of any candidate or political committee shall be made from that fund and no other source. All checks for such expenditures shall be signed by at least two Trustees.

ARTICLE 8. *Trustees.* The governing body of the Committee shall be a Board of Trustees, composed of three members selected each year by the Council of the Arkansas Medical Society. The initial Board of



Trustees shall be James R. Weber, M.D., W. Payton Kolb, M.D., and Asa A. Crow, M.D., subject to ratification by the Council of the Arkansas Medical Society. In addition to the three (3) members to be selected by the Council, each President of the Arkansas Medical Society shall serve as an Ex-Officio member of the Board of Trustees during his tenure as President.

The Trustees are empowered to set basic policies with respect to expenditures to be made by the Committee and to direct disbursements to specific candidates. The Trustees shall determine the procedures for collection and distribution of funds to the candidates and political committees that the Committee shall support and the amount of all expenditures and disbursements by the Committee.

#### ARTICLE 9. *Officers.*

Section 1. The officers of the Committee shall be the Chairman and Secretary-Treasurer, selected annually from among the members of the Board of Trustees and to be elected by the Board of Trustees. The dates of elections and the procedures governing them shall be determined by the Trustees.

Section 2. Subject to the determinations of the Board of Trustees, the Chairman shall administer and have general and active management and supervision of all affairs of the Committee. The Chairman shall preside at all Committee meetings and meetings of the Board.

Section 3. The Secretary-Treasurer shall be the chief financial officer of the Committee and shall keep the financial records, minutes and other records of the Committee.

ARTICLE 10. *Removal.* A Trustee may be removed by a majority vote of the Council of the Arkansas Medical Society.

ARTICLE 11. *Adoption of Articles of Association and Amendments.* These Articles shall be adopted effective April 8, 1983. The Articles may be amended from time to time by a majority vote of the Trustees, subject to the approval of the Council of the Arkansas Medical Society.

ARTICLE 12. *Dissolution.* The Committee may be dissolved at any time by a majority vote of the Council of the Arkansas Medical Society or a majority vote of the

House of Delegates.

13. Dr. Long discussed proposals received regarding the feasibility study on the headquarters office. The Council voted to request that the executive vice president continue to seek information from independent firms on the cost of such a feasibility study.
14. The Council reviewed the schedule for future meetings of the Arkansas Medical Society. The Council voted to hold its 1987 meeting in Fayetteville.
15. The Council voted to participate as a co-sponsor for a proposed mid-south regional conference on socio-economic issues planned for Memphis in September 1984. The chairman was authorized to appoint two members to serve on the steering committee for the conference.
16. Dr. Kemal Kutait, chairman of the Pension Trustees, reported on the Pension Board's consideration of depositories for the funds of the pension trust. He asked for approval from the Council to make a commitment to Worthen Bank if the trustees could reach an agreement with the Bank for handling of the funds. The Council voted to request that the Board of Trustees of the Pension Plan negotiate with the bank and report back to the Council before making any commitment.
17. The Council approved the following appointments by Chairman Burge for an ad hoc committee to study the issue of informed consent legislation:
  - Dr. Larry Lawson, Paragould, Chairman
  - Dr. John Broadwater, Fort Smith
  - Dr. Bill Trantum, Little Rock
  - Dr. S. Killeen DesLauriers, Little Rock
  - Dr. Pat Phillips, Fort Smith
  - Dr. Robert H. Janes, Fort Smith
  - Dr. James Weber, Jacksonville
18. The Council approved appointment of Dr. Susan Baker of Little Rock to the Drug Utilization Review Committee for the Medicaid Drug Program to replace Dr. Shuffield.
19. At the request of the sixth district councilors, the Council deferred until the next meeting action on appointment to the professional relations committee for the sixth district.

The Council met on Sunday, October 30, 1983, at the Camelot Hotel in Little Rock and transacted the following business:

1. Heard a report on the recent meeting of

the AMA House of Delegates by Dr. A. E. Andrews.

2. Received information from the AMA field representative, Ms. Kintzel, on recent activities of the AMA.
3. The Council voted approval of the report of the Executive Committee covering actions of the following dates:  
August 1, 1983:

- A. Authorized a letter be written to the East Arkansas Family Health Center, West Memphis, Arkansas, endorsing the application for Federal funds to support the nurse midwife program in Eastern Arkansas.
- B. Agreed to change the Arkansas Medical Society group Blue Cross-Blue Shield plan to \$500 deductible.
- C. Agreed to extend the lease on the upstairs office space to January 1, 1986, to coincide with the lease for the downstairs office space, which expires on that date. The present lease for the upstairs office space expires October 1, 1983.

August 24, 1983:

- A. Considered the request of the West Arkansas Health Systems Agency and voted to reappoint Dr. Lee Parker to represent Washington County and to reappoint Dr. Jean Gladden as a representative from Boone County.
- B. Discussed the advantages of buying a module for the wordprocessor so that Journal labeling could be done. This module would cost approximately \$1,000 and would effect an annual savings of approximately \$1,740. The Executive Committee voted approval of this purchase.
- C. Reviewed a proposed contract being offered to physicians by the Medical Professionals, Ltd., and recommended that all physicians should be advised immediately that it would be to their best interest to refer any contracts to competent legal counsel prior to signing.

September 12, 1983:

- A. Reviewed the qualifications of Mr. David W. Wroten for the position of Professional Relations Coordinator and voted unanimously to accept the recommendation of the Executive Vice President to

hire Mr. Wroten for the position.

- B. Discussed and recommended that the Arkansas Medical Society investigate and support legislation in the upcoming Special Session of the Legislature concerning improving education.
- C. Voted to encourage the physicians in the State to become involved in providing medical examinations and services to their local schools' athletic programs.
4. Secretary Weber gave the Council a brief report on the special session of the Legislature and the State Legislative Program.
5. Dr. Bob Benafield, chairman of the Hospital Committee, presented recommendations of his committee which were approved by the Council. The recommendations appear elsewhere in the report of the Hospital Committee.
6. Dr. James M. Kolb, Jr., Chairman of the Position Papers Committee, presented papers for consideration of the Council.

The Council approved the paper on Lethal Injection and commended the Committee for its work.

The Council approved the paper on the Supply and Distribution of Physicians with one editorial change.

The Council approved the paper on Lay Midwifery.

The approved papers are as follows:

#### POSITION PAPER ON EXECUTION BY LETHAL INJECTION

*The United States Supreme Court, in 1976, held for the first time that capital punishment is not necessarily cruel and unusual punishment under the Eighth Amendment to the Constitution of the United States. The Supreme Court's ruling raises new issues concerning the administration of the death penalty. One such issue neglected during debate over the constitutionality of capital punishment is the constitutionality of the various means used to take the lives of the condemned. The elimination of barbarity from methods of administering death is of concern not only to those advocating abolition of capital punishment but of many who favor its retention. The Supreme Court has never directly confronted the issue of the cruelty associated with the various methods of im-*



posing capital punishment, nor considered evidence on the actual pain caused by any method of execution.

Legislative attempts to provide more humane alternatives to the present method of execution — hanging, shooting, electrocution, and gassing — have begun. The states of Oklahoma, Texas, Idaho, New Mexico, and most currently (1983) Arkansas, provide lethal injection as the method of capital punishment. It can be anticipated that Supreme Court cases examining the legality of the traditional methods of execution will be heard in the near future.

In the opinion of many, the present methods of execution can be ranked from the most to least cruel as follows:

1. Hanging
2. Shooting
3. Electrocution
4. Gas Chamber
5. Lethal Injection

It is because of these considerations that the Arkansas General Assembly changed the method of execution in Arkansas from electrocution to lethal injection.

Physicians take an oath to maintain life and prevent suffering. Members of the Arkansas Medical Society are of the opinion that lethal injection is probably the least cruel, painful, and demeaning method of capital punishment if capital punishment is the law. The Council of the Arkansas Medical Society adopted the following statement prior to the change in Arkansas law to utilize lethal injection as the State's method of capital punishment:

1. An individual's opinion on capital punishment is the personal, moral decision of the individual.
2. A physician, as a member of a profession dedicated to preserving life when there is hope of doing so, should not be a participant in a legally authorized execution.
3. A physician may make a determination or certification of death as currently provided by law in any situation.

#### POSITION PAPER ON THE SUPPLY AND DISTRIBUTION OF PHYSICIANS

It became apparent in the early 1960's that Arkansas soon would be facing a crisis in the

delivery of health services in many rural areas. As physicians practicing in small towns died or retired, they were not being replaced. This was due to many factors, some of which were the increase in knowledge and technology in medical care and the resulting increase in young physicians entering specialty fields of medicine. With the increase in the number of specialists, physicians tended to congregate in larger towns where more sophisticated medical facilities and larger populations existed. Even in these larger towns, however, physician shortages were noted.

During the 1970's a trend began which has greatly benefited the people of Arkansas, especially those living in the less populous areas. During this time, Arkansas began to see a significant increase in the number of physicians locating outside of urban areas. This was due to an increase in the number of physicians available, improved medical facilities in the needy communities, and to placement efforts of the Medical Society, the Arkansas Department of Health, and the University of Arkansas College of Medicine. Many of the more urban areas began to acquire physicians in adequate numbers to meet their needs, and this led to an increasing supply of physicians available for the smaller towns.

During that same 1970's decade, the total number of physicians in the United States increased by approximately 45%. During that period, the number of physicians in Arkansas increased approximately 64%. This placed Arkansas 15th nationally in the rate of increase in the number of physicians.

With the change in numbers came more subtle changes, such as an increase in the number of primary care physicians brought about by the increased emphasis by the University of Arkansas College of Medicine and other medical schools on training more primary care physicians. During the latter part of the decade of the 1970's, there also began a trend of more non-primary care physicians locating in smaller towns.

In general, the northern part of Arkansas as well as the urban areas have been more fortunate in recruiting physicians than the southern and eastern parts of the State; more

recently even these areas are showing an increase in the number of physicians.

In looking at the supply and distribution of physicians, the question arises as to what constitutes a reasonable number of medical doctors for a given population, and even more specifically, what should be the ideal physician population ratio for specific fields of practice. This type of question is difficult to answer because it involves a multitude of variables, all of which are changing. The factors include changes in the demand for a particular type of medical services, changes in the age and state of health of the population, changes in medical knowledge, and changes in community development and trade patterns. Also, when one tries to determine the number of physicians needed in a specific area, one must consider the availability of primary care and other physicians in adjacent areas. For an area to be classified as a Health Manpower Shortage Area by the Federal Government, there must be a population greater than 3,500 for every primary care physician.

In looking at the future availability of physicians for needy Arkansas towns, one must take into consideration the projections of physician supply developed by the Graduate Medical Education National Advisory Council. This Federally appointed Council, in a report submitted in 1980, projected a surplus of physicians by 1990 and a sizable surplus by the year 2000. Although there are concerns about certain aspects of the study design, it did point out the fact that there will be significantly more physicians entering practice throughout the nation in future years.

Efforts have been made at the University of Arkansas College of Medicine, with support of the members of the Arkansas Medical Society, to train more physicians in primary care by developing a large number of educational opportunities. In recent years, the Area Health Education Centers (AHEC's) have been developed which are educating and training more family physicians in several areas across the State. This has been instrumental in producing physician graduates who have broad skills and who are well acquainted with health care needs across

Arkansas.

The Arkansas Medical Society strongly supports and will participate in efforts to assist physicians who will establish their practice in areas where there are shortages of physicians. However, the Society opposes any efforts to restrict or mandate where physicians may practice.

The Society supports the efforts of the University of Arkansas for Medical Sciences to train an adequate number of physicians for the State of Arkansas and strongly supports Federal and State funding for student loans and grants to medical schools which would provide a pool of physicians both now and in the future to meet the needs of Arkansas.

The Society supports efforts to collect and maintain adequate information on the supply and distribution of physicians by those organizations and institutions which have a role in the future direction of medicine.

#### POSITION PAPER ON LAY MIDWIFERY

Webster's Dictionary defines midwife as "a woman who assists other women in childbirth". Midwifery is defined as "the art or act of assisting at childbirth", and lay is defined as "not of or from a particular profession: unprofessional". Thus, we define lay midwifery as the act of an unprofessional assisting at childbirth.

A lay midwife should not be confused with a nurse midwife. A nurse midwife is an individual educated in the two disciplines, nursing and midwifery. Educational requirements are that a nurse midwife first become a registered nurse and then receive special training, usually on a Master's degree level. By law, any person can become a lay midwife without education or training.

There were two laws passed in 1983 that dealt with the issue of midwifery. Act 824, the Arkansas Nurse Midwifery Act, established educational requirements for nurse midwives and delineated their educational requirements. The law authorized the State Board of Nursing to license and regulate nurse midwives. The law requires that the nurse midwife, as a condition precedent to



practice, have on file with the State Board of Nursing a consulting physician agreement with a physician licensed under the Arkansas Medical Practices Act who has obstetrical privileges in a hospital. It further requires that a nurse midwife refer to a physician any patient presenting symptoms indicating deviation from a normal pregnancy, spontaneous birth, or postpartum course. A nurse midwife must function under written protocols established in conjunction with a consulting physician. Rules and regulations pertaining to nurse midwifery are jointly developed by two physicians practicing obstetrics and gynecology in the State, along with two nurse midwives.

Act 838 is the lay midwife act. This law simply allows the State Board of Health to administer provisions of the law and adopt regulations governing the qualifications for lay midwives to practice. It defines lay midwife as "any person, other than a licensed physician of this State, who shall attend or agree to attend any woman at or during childbirth".

The law stipulates that lay midwives can practice only in those counties having 32.5% or more of its population below the poverty level as determined by the 1980 census. It does state that such practices will be under the supervision of a physician licensed under the Arkansas Medical Practices Act who has obstetrical privileges in a hospital in Arkansas. The law makes no provision for the supervising physician to be located in the immediate area. For example, the supervising physician may reside in Fayetteville and the lay midwife practice in Dermott. This law was extremely poorly written. The law has no safeguards for the public in that it has no educational requirements for training of lay midwives. It leaves this to the discretion of the State Board of Health. This is the only legislation in Arkansas pertaining to the independent delivery of medical services that does not contain educational requirements for the individual providing services.

There is nothing in the law that gives any board or organization authority to repeal the license or otherwise discipline the lay midwife functioning outside the rules and regu-

lations developed by the State Board of Health.

The Arkansas Medical Society strongly opposed legislation authorizing the practice of lay midwifery because it presents a danger both to the expectant mother and the child. The infant mortality rate in Arkansas has shown a steady decline and in 1981 for the first time fell below the national level. It is the opinion of the Arkansas Medical Society that this is in large part due to the decline in births outside the health care system and the improvement in the quality and availability of medical care. A review of a wide range of literature pertaining to obstetrical care indicates that as many as 20% or more of births in the United States have some type of complication requiring medical intervention. Many of these complications are life threatening to child or mother and in some cases, both. The complications that arise prior to delivery, during delivery, and after delivery may require extremely skilled knowledge, use of a variety of lifesaving drugs, surgery, or equipment, the capabilities all of which are beyond that of a lay midwife.

Lay midwifery has been touted as being a low cost, safe, natural, method of childbirth. Lay midwifery has been called the "natural method" of child delivery. This implies that it is unnatural to use drugs or provide other lifesaving methods to intervene in the delivery of a child. Similarly, this misconception inspires some women to prefer such "natural" childbirth over that by professional assistance.

One of the most alarming areas concerning delivery by lay midwifery is that they may be unaware of the warning signs of impending problems until it is too late.

Indeed, cases have been reviewed where lay midwives have tried to persuade an expectant mother not to seek medical care in the face of what any trained and educated person would recognize as severe danger signs. The Arkansas Medical Society supports continuing efforts to improve the availability of medical services, especially where there are problems in the availability of quality medical care. Although some areas of the State continue to be underserved, the Arkansas Medical Society does not endorse

*the concept of untrained or poorly trained lay people providing medical care services including lay persons providing obstetrical care.*

7. Dr. Purcell Smith, Jr., chairman of the Medicine-Business Liaison Committee, reported for his committee. He reported to the Council that he felt it unlikely that a medicine-business coalition would be established; he expressed the opinion that a more active informal liaison between medicine and business would be appropriate and such activity would be more effective on a local basis. He presented recommendations from his committee that (1) the Council endorse the concept of alternate delivery systems and (2) encourage the members to communicate with their local business representatives, making it known that Society staff personnel and Medical Liaison Committee members would be available for advice, information, and suggestions.

The Council voted to accept the report of the committee with a change in the terminology of recommendation (1) to "the Council directs continued study of and experimentation with the concept of alternate delivery systems."

8. Upon motion of Dr. Joyce, the Council approved appointments to the Professional Relations Committee as follows:  
Fifth District—Dr. John Alexander,  
Magnolia  
Sixth District—Dr. Herb Wren, Texarkana
9. The Council named Dr. Ray Jouett to succeed the late Dr. Joe Rushton as a member of the Board of Trustees of the Medical Education Foundation for Arkansas.
10. The Council approved the granting of a charter to the Carroll County Medical Society.
11. Dr. Charles Logan reported for the Board of Trustees of the Employee Pension Plan. He recommended to the Council that the funds in the pension trust be invested with Worthen Bank's Collective Investment Fund. There will be an annual management charge of 6/10 of 1% for the first \$500,000 or a minimum of \$300. There would be an additional charge of \$7.50 per participant for maintaining and providing participant records an-

nually, \$3 per distribution check issued, and a fee of 1% upon transfer or termination of the plan. The Council approved the recommendation of the Board of Trustees. Dr. Logan presented a further recommendation from the Trustees that the plan be modified to allow participants to have an individually-directed participant account. The charge on an individually-directed account would be \$75 minimum per year up to \$12,500 and the regular 6/10 of 1% above that amount. The trustees stipulated that the employee would be required to notify the pension trustees of an election to utilize the participant-directed option and that all costs related to the participant-directed account would be borne by the participant.

12. The Council voted to write Mr. Glen Owens thanking him for his past service and dismissing him from any further service with the employee pension plan.

The Council, in executive session, took the following actions:

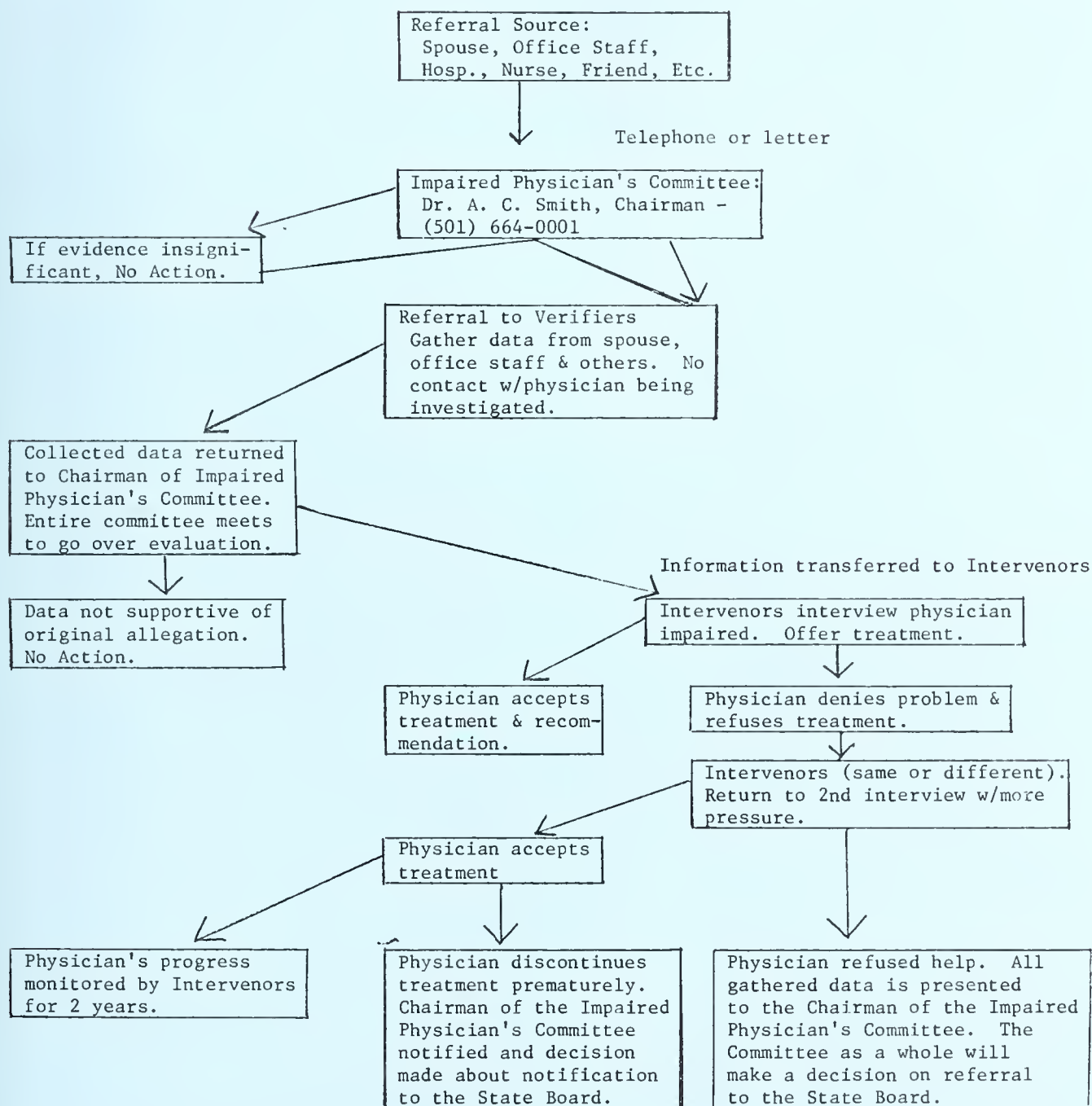
1. The Council considered the budget as presented by the chairman of the Budget Committee, Dr. John Hestir. The Council voted to accept the budget as presented, with one objector.
2. Dr. Hestir discussed the need for action pertaining to resolution of the problem of the future home office site and after much discussion by various members of the Council, it was voted that the Long Range Planning Committee would be directed to contact various firms that could make a survey and make recommendations and bring these recommendations back to the Council at the next Council meeting.

The Council met on Sunday, January 15, 1984, at the Camelot Hotel in Little Rock and transacted the following business:

1. Heard Dr. Aubrey Smith report for the Impaired Physician Committee. His report included recommendations that the Society approve an initial funding of \$5,000 for implementation of an impaired physician program. The Council voted approval of the initial funding of \$5,000 as requested by the Committee. The following is a "Flow Chart" of the committee's proposal:



Impaired Physician's Committee  
of the Arkansas Medical Society



2. Dr. Crow presented the report of actions of the Executive Committee. The Council approved actions pertaining to public relations work with the Hospital Association on diagnosis related group payment mechanisms. The Council approved the Executive Committee recommendation that a fund be established to provide a lecture given at the Society's annual meeting in memory of Dr. Elvin Shuffield. The ad hoc committee on the Shuffield Memorial was directed to study

methods of providing funding for the lecture series.

3. Dr. James Weber, chairman of the Legislative Committee, reported to the Council on the AMS Legislative Fund. He commended President Crow for his effective work on behalf of the fund.
4. Dr. Joe Verser reported to the Council on actions taken by the House of Delegates of the American Medical Association at the December 1983 meeting.

5. Dr. Purcell Smith reported to the Council for the Medicine-Business Liaison Committee. He indicated that the Committee plans a weekend meeting to review the recommendations of the Arkansas Health Care Cost Commission.
6. Dr. Purcell Smith reported to the Council on the meeting of a steering committee for the socioeconomic program planned for September 13-14 in Memphis.
7. Dr. Charles Wilkins, chairman of the Insurance Committee, reported that the Medical Protective Company has been approved for writing professional liability insurance in the State. He recommended that the Council (1) recognize the fact that the new company is beginning operation; (2) welcome the company to the State, and (3) advise the membership of the new company. The Council approved the recommendations.
8. Dr. Wilkins also introduced a request from a company writing professional liability insurance for approval to use the Society logo in promotional materials. The Council voted to deny permission to use the logo.
9. Dr. Lloyd Langston reported for the Long Range Planning Committee on selection of a consulting firm to make the feasibility study regarding the headquarters office. He briefly reviewed the three proposals reviewed by the committee and recommended that the Council engage the Flake firm. There was considerable discussion on the three proposals. The Council voted to hire the Williams firm at costs not to exceed \$10,250 for Phase I and \$26,475 for Phase II (as outlined in the proposals), with the stipulation that any out-of-state travel for the study be approved in advance by the Executive Committee. The motion carried (there was one negative vote).
10. Dr. Langston, speaking as chairman of the Long Range Planning Committee, suggested that the Council consider opening a full time office in Little Rock to be manned by Ken LaMastus and one secretary. There was discussion on whether the Council should consider such action until the feasibility study was completed. The Council voted to refer the matter to the Committee on Medical Legislation for study and an appropriate recommendation to the Council.
11. Dr. Milton Deneke, chairman of the Public

Relations Committee, reported for his committee and presented recommendations for approval of the Council:

- (1) That the lay person award be given a name. The Council voted to name the award the Drs. Joe and Elvin Shuffield — Arkansas Medical Society Award to Outstanding Layman.
- (2) That a letter be written to the television stations in Little Rock commending them for their awareness of medical activities. The Council so voted.
- (3) That the Council take a position regarding the American Coaching Effectiveness Program (ACEP). The Council voted to adopt the ACEP program for implementation by the Public Relations Committee.

The Council commended Dr. Deneke and his committee for their excellent work.

12. Dr. Lloyd Langston was appointed to a four-year term on the Budget Committee, replacing Dr. Asa Crow whose term expired December 31, 1983.

#### **Report of the Executive Vice President C. C. Long, M.D.**

The year of 1983 has been one in which the staff was involved in a great deal of activity. A large part of this was generated because of the Legislative Session. In the 1983 Legislative Session, fifty-nine bills were introduced with which the Medical Society was actively involved. This is about five to ten more bills than have involved medicine in the past.

Also, this year, seven sets of regulations by various agencies have been proposed and the Society has made comments and appeared before committees to discuss issues in which medicine had an active concern.

In addition to this activity, of course, the staff has continued to work with the many committees of the Society, as well as the Council; attended the annual and interim session of the American Medical Association, and made the annual trip to Washington, D. C., with members to consult with our Legislators.

Mr. Ken LaMastus, the Assistant Executive Vice President, spent almost three months in Little Rock this year at the regular and special Sessions of the Legislature. During the period of time the Legislature was in session, ten *Legislative Alerts* were mailed to the members of the Society and



this year, also, the Auxiliary received these mailings. This totaled over 30,000 individual pieces of mail.

During the rest of the year, thirteen newsletters were generated by the staff and mailed to all members which made approximately 31,000 additional pieces of mail. Press releases to the media throughout the State numbered 550. The Assistant Executive Vice President was out of the office for a total of 140 days during the year while traveling over the State, attending meetings in Little Rock, the various county medical society meetings, committee meetings, councilor meetings, etc.

The executive staff attended twenty-five county medical society meetings throughout the State during the year and was involved in the formation of one new medical society in Carroll County.

Through the Placement Bureau, we had communications with ninety-three physicians concerning locations within the State. It is difficult to know how many of these contacts resulted in actual entering into practice but we feel that several did and several more of these will probably eventually settle here as some of them contact us more than a year prior to the time that they would be available to enter into practice.

The other programs which we enter into — the "Doctor of the Day" at the State Legislature, the staffing of some of the specialty societies (we get out mailings for them and, in some instances, take care of their financial reports, etc.) — have continued as in the past.

We have instituted in the past year an outgoing WATS line. This is in addition to the incoming WATS line already in use. The incoming WATS is continuing to be used by more and more physicians and we receive many questions concerning ethics, the legality of certain acts and advice pertaining to methods of billing, methods of opening and closing a practice, and so forth.

The Journal is continuing to be published; the proofreading and the general writing of many of the informational items concerning activities of the members of the Society are still being done by the central office staff.

During this past year, we have added one member to the executive staff, Mr. David Wroten, Professional Relations Coordinator. He is being utilized more and more in the field of visiting with county medical societies, becoming involved with the members throughout the State in the way of bringing information to them, obtaining infor-

mation from them in regard to the needs of the Society and will be working with the Arkansas political action group to acquaint candidates with the functions of the Society and the Society members with their opportunity to be of benefit to the candidates and establishing an on-going working relationship with them. During these activities, the staff members will have driven in the past year approximately 70,000 miles throughout the State. We anticipate this will be expanded in the future as we have more and more contact with the various members and the county medical society organizations statewide.

All activities described in previous years of mailings to new members, mailings to new licensees, answering correspondence from out-of-state and corresponding with them in various ways, have been carried on.

During the past year, we had one of our most successful Annual Sessions which was held in Fayetteville. This involved considerable planning and effort as this was the first year in many years that the State meeting had been held in Fayetteville. It involved some extra effort, due to the fact that the personnel at the hotel and in the Fayetteville area were not really experienced in handling a convention of our type. However, in general, it worked very well; there were no problems. The staff received many compliments concerning the planning and execution of the details necessary to have a successful meeting.

Mailings increased this year. Well over 100,000 pieces were sent out of this office during the past year.

This covers some of the activities of the central office staff. Of course, we collect dues, maintain membership records, and compile a membership roster which is published each year. We try to keep all these records updated as much as possible.

The staff is composed at the present time of four people in the executive capacity and six clerical personnel.

#### **Budget Committee**

**John M. Hestir, M.D., Chairman**

The Budget Committee submitted the following budget for 1984. The complete budget, as presented to the Council, is available to members upon request.

#### **INCOME**

<i>Budget Item</i>	<i>1984 Budget</i>
Membership Dues	\$416,162.00
Advertising	35,000.00

Booth Income	12,000.00
Annual Session	5,000.00
AMA Reimbursement	4,800.00
Miscellaneous & Rosters	15,000.00
Interest	85,000.00
Specialty Desk	1,000.00
INTRAV Reimbursement	2,500.00
Ark. Foundation for Medical Care	14,076.00
Continuing Medical Education	500.00
	<hr/>
	\$591,038.00

#### EXPENSES

Salaries	\$228,100.00
Travel & Convention	60,000.00
President's Travel	3,000.00
Taxes	18,000.00
Retirement	26,000.00
Stationery & Printing	10,000.00
Office Supplies & Expense	20,000.00
Telephone & Telegraph	14,000.00
Rent	19,000.00
Postage	28,000.00
Insurance & Bonds	22,000.00
Auditing	3,500.00
Council Expense	7,000.00
Lobbying Activities	1,000.00
Journal Printing	57,000.00
Annual Session	30,000.00
Winter Meeting	2,000.00
Dues & Subscriptions	5,500.00
Gifts & Contributions	2,000.00
Woman's Auxiliary	1,700.00
Legal Services	25,000.00
Special Committee	500.00
Rural Health	500.00
Miscellaneous	10,000.00
Freight & Express	100.00
Office Equipment	5,000.00
Continuing Medical Education	500.00
	<hr/>
	\$599,400.00

#### Report of the Medical Education Foundation Martin Eisele, M.D., President

Two new members have been added to the Board of Directors of the Medical Education Foundation for Arkansas during the past year. In January 1983, Dr. Amail Chudy was elected to replace Dr. Robert Watson, who resigned. In November 1983, Dr. Ray Jouett was elected to fill the unexpired term of the late Dr. Joe Rushton. Both Dr. Watson and Dr. Rushton had served

many years on the Board and their contributions to the development of the Foundation have been very much appreciated.

Dr. Jean Gladden is the other elected member of the Board. Dr. Asa Crow, as Society president, Dr. Charles Wilkins, as Society president-elect, Dr. Morriss Henry, as Society immediate past president, and Dr. Thomas Bruce, as Medical School Dean, also serve on the Board.

The Foundation continues to support the educational functions of the University of Arkansas College of Medicine. This school year, the Foundation lecture series will bring in ten speakers from medical centers around the country to the University of Arkansas College of Medicine. The lecture series continues to be very well received by both faculty and students.

This year, the Foundation also made a \$15,000 grant to the Department of Obstetrics and Gynecology at the College of Medicine for the purchase of research equipment.

The Foundation Board has elected to make the University of Arkansas College of Medicine the primary recipient of financial support and this policy has been approved by the Council of the Arkansas Medical Society.

Members of the Society are reminded that the Foundation is a charitable organization and contributions are tax deductible. Contributions to the Foundation will help promote medical education. It is suggested that the Foundation would be an appropriate recipient of memorial donations.

#### Arkansas Medical Society Political Action Committee Report J. Larry Lawson, M.D., Chairman

Your Political Action Committee (PAC) Board of Directors appreciates those members who have contributed during this non-election year. We have had a 45% increase in PAC memberships over the previous calendar year. A great deal of credit for this increase goes to the Society president, Dr. Asa Crow, and we express appreciation to him for his efforts. Dr. Pat Phillips of Fort Smith, a former PAC chairman, has also assisted with speaking at local meetings on the political action committee and we express thanks to him for his help.

Dr. Bobby McKee of Jonesboro, Mrs. Charles Wilkins of Russellville, and Mrs. Jack Burge of Lake Village will complete five years of service on the PAC Board this year and will be ineligible



to continue as board members. They are commended for their work during their terms of office. Your chairman will also complete the maximum time on the Board this year. I have enjoyed the association with PAC and know that the new officers will work for continued development of PAC activities in the State.

Other members of the Board for this year are Dr. Charles Rodgers of Little Rock, who is secretary-treasurer, Dr. John Crenshaw of Pine Bluff, Dr. Robert Miller of Helena, Dr. Ken Lilly of Fort Smith, Dr. James M. Kolb, Jr., of Russellville, Dr. Samuel Koenig of Fort Smith, Dr. Milton Deneke of West Memphis, Dr. John Hestir of DeWitt, Mrs. C. Lynn Harris of Hope and Mrs. Herbert Taylor of West Memphis.

At its annual meeting, the PAC Board of Directors heard a discussion of the proposed statewide legislative fund. The Board voted to endorse the proposal in principle but to retain a separate identity for the Arkansas Medical Society Political Action Committee.

During the year, PAC made a contribution to the committee of a Congressional representative and participated in appreciation dinners for a member of the United States Senate and the Governor.

This is an election year and there is every indication that it will be a very active year. The incumbent for the second congressional district has announced that he will not seek re-election, but may be a candidate for the United States Senate.

Even though there was an increase in PAC membership this year, more participation is necessary for an effective political action committee. The PAC Board strongly urges you to join. Sustaining membership is \$99, family membership is \$65, and regular membership is \$40. Contributions may be forwarded to AMS-PAC, Post Office Box 1208, Fort Smith, Arkansas 72902.

AMA-PAC is a separate segregated fund established by the American Medical Association. AMS-PAC is a separate segregated fund established by the Arkansas Medical Society. Contributions received from corporations will be used solely for political purposes and not deposited in the separate segregated funds. Contributions are not limited to this suggested amount. Neither AMA nor AMS will favor or disadvantage anyone based upon the amounts of or failure to make PAC contributions. Voluntary political contributions will be used in connection with State and Federal elections and are subject to the prohibitions and limitations of the Federal Election Campaign Act (Federal regulations require this notice).

### **Committee on Public Health**

**Don Howard, M.D., Chairman**

The Committee on Public Health met at the Arkansas State Health Department Building on February 11th at 10:00 a.m. The members of the committee present were:

Don G. Howard, M.D., Chairman

William C. Whaley, Jr., M.D.

Wilbur G. Lawson, M.D.

John A. Hall, M.D.

Walter Shriner, M.D.

The report is as follows:

1. *Environmental Health* — New legislation should be proposed to provide funds for the Environmental Health monitoring research by the Arkansas State Department of Health to possibly develop regulations and policies. This should be a cooperative program between Federal agencies and the state EPA agencies. Birth defects should be a topic of high priority to determine if the defects are due to environment which has been compromised or genetics.
2. *Screening at Birth for Inborn Error of Metabolism* — We should continue the present legislation for screening of inborn errors of metabolism. There also should be a follow-up for PKU patients that did not have the PKU at the time of delivery at their hospital. A state registration should be maintained by the Arkansas State Department of Health for follow-up of PKU patients. The physician should be notified of his legal obligations in regard to this follow-up. This registry will assist in the follow-up medical assistance and assist the treating physician in referring the patient to the appropriate genetic counselling agency.

The Committee also would recommend that legislation in regard to the requiring of Cystic Fibrosis and Alpha-Fetoprotein Screening be delayed at this time due to the fact that there are many false positives and the results are not reliable. The Committee also felt the State Health Department should take into consideration policies in regard to inborn error metabolism screenings for infants delivered by lay midwives. The Committee recommended that the State Health Department possibly seek means to improve their reporting forms and printing techniques on the reports sent out by the State Health De-

partment as to their interpretation to inborn errors of metabolism.

3. *Emergency Medical Services* — The Committee recommended that the State Health Department develop more stringent regulations and policies pertaining to Emergency Medical Technicians in regard to legal responsibilities and involvement of the physician in patient's family. The State Health Department should develop policies that clearly spell out who is responsible for the treatment of the patient at the time EMT personnel arrive at the scene. Some Committee members felt as if EMT personnel would attempt to replace the physician as the primary health provided at that time and, also, at times the patient's wishes were not considered.
4. *Radiation Control* — The Committee recommended that radiation detection devices be advocated in areas where radiation equipment is being utilized. One Committee member felt that the installing agency should have the regulatory right to require radiation protection rather than the Public Health Department.
5. *Lay Midwife Program* — The Committee recommended the Arkansas State Health Department be the governing agency of this program and would be responsible for developing regulations, supervision, surveillance monitoring, and any changes would occur initiated by the Public Health Department. The Committee also encouraged the expansion of the Nurse Midwife Program.
6. *Rural Health Conference* — The Committee recommended that the Rural Health Conference be abandoned due to the fact it served no useful function at this time. There is a smaller amount of rural area to be served and it was felt that this money could be expended in other areas that could be more useful.
7. *Ultrasound* — The Committee recommended that policies should be developed for the usage of ultrasound and its equipment. These policies should be developed by the Arkansas State Health Department. It was felt at this time that the adverse effects of ultrasound cannot be projected due to the short time it has been in usage. It was felt that certain usages by practitioners have been abused in this area. The Committee felt that the Public Health Department should communicate to the medical profession the potential abuse of ultrasound equipment. There is no long term history to determine if there are possible adverse effects but also there is a great possibility that there could be if this equipment is abused.
8. *Home Health Program* — The Committee recommended that the Public Health Department continue to be the agency to license home health personnel. The Public Health Department should monitor for abuses and provide closer supervision of home health personnel.
9. *Birthing Center Concept* — The Committee recommended that hospitals provide guidelines for licensing and regulating birthing centers in their area, if the hospital determined that there was a need in this area.
10. *"Baby Doe" Regulations* — The Committee recommended that the medical profession recognize that there is a problem. The Committee recommended all hospitals review and prepare guidelines to bring to light the best medical knowledge in the context of the family's and society's spiritual and ethical guidance and legal requirements in order to plan the most appropriate strategy for the care of the disabled infant. Assure that decisions regarding the treatment of the disabled infant are appropriately communicated to pertinent individuals and thoroughly documented in the medical record.
11. *Immunization Standards* — The Committee recommended that the redbook of Academy of Pediatrics should be followed. Also, the Committee recommended that we should support the present immunization policies that are in effect now. The Committee recommended that policies in regard to Smallpox vaccinations should be reviewed and possibly renew its policy of giving Smallpox immunizations. Since the lack of immunization, population poses a national threat if Smallpox becomes epidemic in nature.
12. *Auto Restraint Equipment* — The Committee recommended that we support the legislation that already addresses auto restraint policies.
13. *Acute Viral Diagnosis* — The Committee recommended that the Public Health Department should develop immuno fluorescent technique for rapid diagnosis of Rocky



Mountain Spotted Fever and related viral infections.

14. *Monitoring of Birth Defects* — The Committee recommended that the Public Health Department should develop monitoring techniques to determine the scope of the birth defect program.
15. *Birth Control for Low Income Population* — The Committee recommended that we support the Public Health Department in their present program.
16. *Smoking, Ethanol and Marijuana* — The Committee recommended that the Public Health Department intensify its community education program and try to initiate a very intensive program in the public high schools, starting at an early age group.

**Report of the AMA Delegates  
Joe Verser, M.D., Delegate**

The American Medical Association met in Chicago in June and in Los Angeles in December. The membership of the House is now 351. The Hospital Medical Staff Section met for the first time in conjunction with the June meeting, with nearly 700 representatives in attendance.

The President of the United States addressed the House during its meeting in Chicago. President Reagan discussed health care costs and congratulated the AMA on its cost-effectiveness programs. He thanked medical societies with private sector programs for the needy and unemployed. He also discussed Federal research for medicine and other health-related issues.

At the December meeting, the members of the House heard the Secretary of the Department of Health and Human Services, Margaret Heckler, discuss health care costs and the Government's ever-increasing role in health care through Medicare and Medicaid payments.

During sessions of the House at both meetings, there was extensive debate on the medical staff section of the *Accreditation Manual for Hospitals* of the Joint Committee on Accreditation of Hospitals. In June, the House affirmed the principle of continued use of the term "medical staff" in the accreditation manual and urged the JCAH to assure that the medical care of all patients remain under the supervision and direction of qualified, fully-licensed physicians (Doctors of Medicine and Doctors of Osteopathy). At the December meeting, there were two broad issues under consideration:

1. Physician responsibility for patients admitted to hospitals by limited-licensed practitioners.
2. The ability of the individual hospital and medical staff to determine which categories of limited-licensed practitioners may be considered for medical staff membership.

After lengthy debate, the House adopted the following policy statement:

That it be the policy of the AMA that the hospital medical staff may grant admitting privileges to appropriately credentialed limited-licensed practitioners in accordance with state law and in accordance with the criteria for standards of medical care established by the individual hospital medical staff.

The House voted to provide a voting position on the Board of Trustees for a resident physician and a nonvoting position on the Board for a medical student.

The House adopted a resolution calling upon the AMA to conduct a study of the effects of cost shifting on physicians, third-party payers, and hospitals.

Action opposing regulations to implement Section 108 of TEFRA relating to Medicare Payment of Physician services was approved by the House in June.

In December, the House approved a major report regarding physician reimbursement by means of indemnity versus UCR. The House reaffirmed Association policy supporting:

1. Freedom for physicians to choose the method of payment for their services and to establish fair and equitable fees.
2. Freedom of patients to select their source of care.
3. Neutral public policy and fair-market competition among alternative health-care delivery and financing systems.

In related action, the House voted to support the right of the physician to balance bill a patient for any care given, regardless of method of payment, where permissible by law or contractual agreement.

The House filed a status report on regulations implementing the Prospective Payment System of Hospitals. In related action, the House voted to endorse the concept that any system for reimbursement for physicians' services be independent of reimbursement systems for other providers of health care and to continue to oppose expansion of prospective payment systems until such time as

they have been adequately evaluated with respect to their impact on the quality, cost, and access to medical care.

The House adopted a report that recommended more aggressive implementation by HHS and HCFA of existing provisions in Federal legislation calling for equity of reimbursement between services provided by hospitals on an outpatient basis and similar services in physicians' offices.

The House called upon the AMA to develop a model public education program for use by constituent societies to deal with the potential threat to the quality of medical care from legislative proposals such as TEFRA and prospective payment systems. The House urged state and county medical societies to develop with AMA assistance "key physician" contacts to aid the Washington office staff.

The House approved a report of the Judicial Council pertaining to confidentiality between a physician and a patient. The report states that "the physician should not reveal confidential communications or information without the express consent of the patient, unless required to do so by law." Exceptions are when a patient threatens to inflict serious bodily harm on another person; communicable disease, gunshot and knife wounds should be reported as required by applicable statutes or ordinances. While not mentioned in the report, the Chairman of the Judicial Council stated that incidences of child abuse and abuse of the elderly should also be reported to appropriate authorities.

The House adopted a report of the Board pertaining to insanity as a defense. The report received generally favorable attention among members of the news media. The report called for a narrowing of the use of the insanity defense in criminal trials. The American Bar Association and the American Psychiatric Association expressed opposition to the report which concluded that the insanity defense:

"Has outlived its principal utility, it invited continuing expansion and corresponding abuse, it requires juries to decide cases on the basis of criteria that defy intelligent resolution in the adversary forum of the courtroom, and it impedes efforts to provide needed treatment to mentally-ill offenders."

The Reference Committee concluded that the position recommended by the Board is rational and thorough in all aspects, will decrease the time

and costs involved in criminal trials, and will provide greater opportunity for appropriate treatment of the mentally ill. The House also called upon the AMA Board to continue collaborative efforts with the ABA and APA to achieve a common-policy position concerning the insanity defense.

There was action by the House in June to modify the AMA's existing definition of "physician" to include Doctors of Osteopathy. The House voted to initiate and support legislation to amend appropriate sections of the Social Security Act to conform to the new definition.

The House adopted a report that guarantees anonymity of a resident physician who initiates an inquiry by a residency review committee into the conduct of a residency program. Also adopted was a report from the Council on Medical Education which concluded that a sufficient number of residency positions are available in the Matching Program to accommodate current graduates of United States medical schools.

The House voted to encourage medical staff peer review committees to consider excusing non-physician members of the committee when evaluating the professional practices of fully-licensed physicians.

The House adopted a report recommending that the Food and Drug Administration act promptly to review the issue of advertising prescription drugs to the public and that advertising be held in abeyance pending the FDA's review. The report cautioned that prescription drug advertising, whether to the health professions or to the public, that is false or misleading or does not give adequate information on beneficial as well as adverse effects is potentially dangerous and should be opposed.

The House adopted a policy on therapeutic substitution as follows: "That the AMA vigorously oppose any concept of therapeutic substitution of drugs by pharmacists."

The House called on the AMA to institute an active public information campaign to get accurate information on dioxin before the public and to update a 1981 report on the subject.

On the subject of autopsies, the House adopted a resolution calling on the AMA to develop and distribute materials to students and residents stressing the importance and necessity of the autopsy, to provide guidelines for obtaining medical/legal consent from families for the per-



formance of this procedure; and to investigate means of encouraging a higher proportion of autopsies.

A report prepared by the Commission on Emergency Medical Services was adopted by the House. The report presented initial criteria to aid in determining whether a practice can truly offer a full range of emergency medical services. Criteria included hours of operation, staffing and medical direction, relationship to the emergency medical services system, ancillary services and equipment, protocols, private physician referrals, medical records, payment for services.

Another Judicial Council report approved by the House concludes: "The Judicial Council believes that surrogate motherhood presents many ethical, legal, psychological, societal, and financial concerns and does not represent a satisfactory reproductive alternative for people who wish to become parents."

The House voted to oppose the sale of non-renewal, transplantable organs for the purpose of profit and to continue to monitor the legislation now being considered in Congress on this subject.

The House voted to continue to oppose regulations or legislation which would impose a Federal role in the decision-making about the care of severely ill newborns.

Another position taken by the House was to oppose the advertising practice of naming products for controlled substances, implying that their use is exciting and desirable.

Also adopted was a resolution calling for the AMA to publicize the deleterious effects of boxing on the health of participants, to encourage the elimination of boxing from amateur scholastic, intercollegiate, and governmental athletic programs as detrimental to the health of participants, and to develop model legislation seeking to curtail the utilization of boxing as a public spectacle to the extent feasible.

The Council on Medical Education submitted an extensive report to the House on the cost and financing of medical schools, medical students and their financial problems, and residency programs and the availability of first-year positions. The comprehensive report contained 17 recommendations which were approved by the House.

The regular dues assessment for AMA was raised \$15 and the assessment for medical students was increased \$5.

## **Arkansas Department of Health** **Ben N. Saltzman, M.D., Director**

The year 1983 was an eventful year for the Arkansas Department of Health. A busy Legislative Session resulted in the involvement of the Department in several developmental activities and regulatory procedures.

It was a year noted for the cooperation of the Department with the officers and Council of the Arkansas Medical Society. The Department was honored in being asked to submit articles on public health to the Journal of the Society. This provided an opportunity for informing the physicians of the State regarding the numerous services and programs of the Department.

The Board of Health was expanded with the addition of a member representing the retired population of the State. In general, the support of the Legislature was excellent. The Governor of the State provided initiative and understanding of the difficulties involved in a public health program as large as the one in which we play a part.

In general, it has been a successful year. We have continued to serve to the best of our ability the public health needs of the people of our State. We have recognized the fact that we serve a large indigent population. We have begun the birthing center concept in the State, the expansion of the Nurse Midwife Program, and are attempting to regulate a Lay Midwife Program.

The reports that follow, as presented by the directors of the five bureaus in the Department of Health, make interesting reading. I urge that every physician in the State read these reports. They will tell you what we are doing and they offer assurance that we could not exist without the excellent cooperation of the practicing community.

### **BUREAU OF PUBLIC HEALTH PROGRAMS**

**Charles McGrew, Director**

#### *Rural Health Office*

The Rural Health Office assists medically underserved rural communities in starting primary care clinics and retaining primary care services. In calendar year 1983, the Rural Health Office accomplished the following:

1. Assisted in recruiting 27 physicians into physician shortage areas;
2. Assisted in developing a new primary care clinic in Strong;
3. Developed and distributed a brochure entitled

- "Building A Medical Practice" to help physicians promote themselves and their practices;
4. Assisted 4 physicians and one community in obtaining low interest loans from the State Rural Medical Clinic Revolving Loan Fund to renovate and equip medical clinics;
  5. Coordinated the 1984 National Health Service Corps Recruitment Conference for Arkansas and Louisiana, held in Little Rock on December 16-18;
  6. Assumed and conducted all National Health Service Corps duties and responsibilities for Arkansas, through the existence of a contract between the Rural Health Office and the National Health Service Corps.

#### *Division of Health Statistics*

This growing division of the Health Department in 1983 gave extensive technical assistance to the Arkansas Department of Human Services, especially in the area of long term care policy. It designed and undertook a sample survey of all Medicaid nursing home clients in Arkansas to assess disability levels. Division staff, having obtained training in age adjustment techniques and population estimation techniques, produced the first age adjusted mortality data in the State.

The Division also obtained changes in the State birth certificate to include occupation and industry of both parents (commencing 1984). We will now be able to monitor the relationship between birth outcome and parental occupation.

### SECTION OF PERSONAL HEALTH SERVICES

#### *Dental Services — Fluoridation Program*

Five more communities were approved for funding and have already begun providing fluoridated water to over 17,000 Arkansans. In addition, eight more communities were approved for funding, but due to weather conditions did not complete installation during 1983. These 12 communities bring the total population provided fluoridated water to more than 1 million Arkansans.

Water operators from 36 water systems attended a two-day training course in proper fluoridation techniques and procedures insuring that systems continue to provide optimally adjusted fluoridated water to users. The Arkansas Fluoridation Program provided funding for the purchase of chemicals for eight communities thus preventing discontinuance of optimally adjusted fluoridated water for some 28,000 Arkansans.

#### *WIC*

The Special Supplemental Food Program for Women, Infants and Children (WIC) provides nutritious foods and nutrition education to pregnant and breast-feeding Women, Infants, and Children up to five years of age who are found to be income eligible and at nutritional risk. The WIC Program has seen an increase in caseload from 21,145 in October 1982, to 26,185 in December of 1983. This increased caseload is due not only to the increased funding provided by the Emergency Jobs Bill passed by Congress in spring 1983, but by the additional funding received in fiscal year 1984. Funding has increased from \$12,351,594 in FY '83 to \$15,913,543 in FY '84. In FY '83, the WIC Program provided services to 51,035 Women, 90,174 Infants and 133,527 Children for a total of 274,736 program recipients.

#### *Hearing and Speech Clinic*

The Infant Hearing Loss Identification Program, as reported in the past, is designed to find those newborns with a hearing impairment. This year, three more hospitals were added to our hearing testing component. Now, approximately 15% of all live births in Arkansas are covered by this program. Because of rapid growth and tremendous community and professional interest, a new position was added for an audiologist to coordinate the program full time. This person will direct present activities and coordinate the effort for a statewide identification plan.

Because of the tremendous demand for audiology services in the Forrest City Clinic, a second audiologist was added. This Clinic serves 15 east and northeast counties. This area of Arkansas tends to have a higher incidence of hearing problems.

#### *Family Planning Program*

As a part of the program's continuing effort to reduce the incidence of adolescent pregnancy, activities were increased this year in the areas of family and community education. A two-day Family Involvement Workshop was conducted for 31 family planning professionals to train them to assist parents in becoming the primary sexuality educators of their children. A total of 40 classes were subsequently conducted for interested parents. At least 700 health professionals were introduced to Health Department family planning materials and information at the annual Arkansas School Counselor's Conference and School Health Association Meeting. Additionally,



Health Department personnel across the State spoke to 14,000 adolescents and adults on family planning and sexuality education.

#### *Sudden Infant Death Syndrome*

On October 1, 1983, the Arkansas Department of Health again began funding autopsies in cases of suspected SIDS deaths. To qualify for autopsy, the infant must be between 1 week and one year of age and must have been previously healthy. Arkansas Childrens' Hospital is the autopsy contractor. ADH also provides funding for transportation of the deceased to and from ACH for autopsy. Within 24 hours of autopsy, the ADH physician or nurse notifies the family of preliminary autopsy findings. A local public health nurse offers to visit the family for counseling, education, and support regarding SIDS.

The SIDS staff is working to improve suspected SIDS reporting. Arkansas law requires that any local health or law enforcement provider notify the local coroner of a suspected SIDS death. The coroner is then required to offer the family an autopsy and to report the death to the Arkansas Department of Health.

In the ADH Central Office, death certificates of all infants under one year of age are reviewed in an effort to identify possible cases which were not reported. In addition, we are working to link birth and death certificates on known SIDS victims to determine if there are any common characteristics which might lead to prevention of this mysterious #1 killer of infants.

#### *Lay Midwifery Regulations*

Act 838 of 1983 directs the Arkansas State Board of Health to adopt regulations to license lay midwives and govern the practice of lay midwifery in any county having 32.5% or more of its population below the poverty level. Those counties meeting the legislative criteria were Woodruff, St. Francis, Lee, Monroe, Phillips, and Chicot counties, according to the 1980 census by the United States Bureau of the Census. The Act further stipulates that a lay midwife must practice under the supervision of a physician licensed under the Arkansas Medical Practices Act who has obstetrical privileges in a hospital in this State.

Dr. Thomas Hejna (an obstetrician/gynecologist), Director of Maternal and Child Health for the Arkansas Department of Health, was asked by the Board of Health to select and chair the committee responsible for drafting the regulations. The committee consisted of two lay midwives and

the following Health Department staff: a nurse practitioner, attorney, pharmacist, Hospital Division regulatory representative, and an MCH administrator. The committee reviewed regulations from other states with comparable laws, and then recommended regulations for Arkansas. A public hearing was recently held and the regulations should be finalized in early 1984.

#### *Maternity*

One of the functions of the Maternity Program is to act as a catalyst in ensuring that maternity and delivery services are accessible and affordable.

Indigent low-risk maternity patients in East Arkansas, for example, may enroll in the Mississippi County Nurse Midwife Program. Fees for the midwife and delivery services are based on a sliding fee scale. Two additional nurse midwife projects were developed in 1983 jointly by the East Arkansas Community Health Center and the Arkansas Department of Health to provide maternity care for low-risk poor women in an eight county area at a reduced cost. The cost of the care is reduced by using midwives and ensuring a shorter inpatient hospital stay. The Health Department will provide home follow-up to the mothers and babies who are discharged early. High-risk pregnant women deliver at City of Memphis Hospital through a contractual arrangement with the Arkansas Department of Health and funded through Act 490 (dog track) funds.

The Department's expertise and technical assistance is available to other communities across the State which wish to establish programs, similar to the one in East Arkansas, which will:

1. Reduce the length of stay and, subsequently, the cost of the delivery, and
2. Establish a home visiting component to follow-up mothers and babies who are discharged early.

#### *Child Health*

The Arkansas Department of Health worked with Arkansas Highway Safety, Arkansas Childrens' Hospital (ACH) and pediatricians in the State to successfully pass Act 749; the Child Passenger Protection Act. This law states that every child under age 3 should be restrained in a child passenger safety seat system and that children between 3 and 5 years old be restrained in a child safety seat or by a seat belt. The legislation also requires a public awareness campaign to encour-

age and promote the use of child passenger safety seats.

The Department of Health established a Loan-a-Seat program in September 1983, in 16 Local Health Departments to distribute 2,000 seats to:

1. Ensure compliance with Act 749 (especially to allow low-income families an opportunity to obtain an infant seat); and,
2. Promote the use of child passenger safety seats.

## SECTION OF ENVIRONMENTAL AND HEALTH MAINTENANCE

### *Epidemiology*

Last year was a busy year for the Epidemiology Program. We experienced the usual disease rates for most of our reportable diseases: Hepatitis 406 cases, Meningitis 83 cases, Salmonella 456 cases and Shigella 78 cases. Rocky Mountain Spotted Fever (40 cases) and Tularemia (65 cases) were up in incidence again last year. In March a measles alert was issued when 10 cases of measles were discovered in Batesville. A second measles scare resulted in July with the arrival of a Drum and Bugle Corps touring the United States.

In June, Arkansas reported its first and only AIDS victim, a 28-year-old male from Pulaski County. In September, the first case of Diphtheria since 1969 was discovered in a 14-month-old unimmunized infant from Polk County. Also in September we reported a case of congenital rubella, the first case reported in Arkansas since 1971. Some of the more unusual diseases reported during the year included three cases of Kawasaki Disease, two cases of Lyme Disease, three cases of *Vibrio cholerae* and a case of murine typhus.

### *Venereal Disease*

Reported cases of early syphilis in Arkansas during 1983 numbered 324, which are 39 fewer cases than were reported in 1982. Rapid epidemiologic follow-up of over 95 percent of the reported cases resulted in the examination/treatment of 695 contacts and clusters with recent exposure to the infected individuals. Probable sources were identified for 143 of the reported cases and intervention into the transmission cycle was accomplished in 213 of the cases.

Five patients with penicillin-resistant gonorrhea were reported in 1983, compared to eleven in 1982. Three of the patients with penicillin-resistant gonorrhea were detected as a result of post treatment test-of-cure cultures. Rapid follow-up of these individuals and their contacts resulted

in the identification of two additional cases of penicillin-resistant gonorrhea. The last case of penicillin-resistant gonorrhea occurred in October 1983.

### *Childhood Immunization*

The computer-based Arkansas Immunization Reporting System continued to assess immunization records, and those individuals found to be delinquent in one or more immunizations were contacted by local health unit personnel and private physicians participating in the system. This assessment is directed toward pre-school children to assure adequate immunization levels in these age groups prior to school enrollment.

The school immunization regulation requirements were revised and the revisions implemented with the 1983-84 school year. Children in Arkansas are required to have received 3 DTP, Tb or DT, 3 Polio, 1 Measles and 1 Rubella vaccination to attend public and private schools. The revised requirements for new enterers (Kindergarten or 1st Grade) and transfer students attending public and private schools are as follows:

1. DTP, Tb or DT — At least *three* doses, but one dose must have been administered after the student's fourth birthday.
2. Oral Polio or Inactivated Polio — At least *three* doses, but one dose must have been administered after the student's fourth birthday.
3. Measles — *One* dose live vaccine administered after the student's first birthday and not prior to 1-1-68.
4. Rubella — *One* dose live vaccine administered after the student's first birthday and not prior to 6-1-69.

These requirements do not increase the number of doses a child must receive but do set qualifying criteria to assure that the students are adequately immunized medically.

Children attending kindergarten or first grade and day care continue to remain very highly immunized. Results of the 1982-83 survey reveal the following immunization rates for these age groups:

<i>Antigen(s)</i>	<i>Kindergarten and/or First Grade</i>	<i>Day Care</i>
	<i>Percent Immunized</i>	<i>Percent Immunized</i>
DTP	99	96
Polio	98	95
Measles	99	93
Rubella	99	92
Mumps	93	89



### *Maternal Education Program*

The Arkansas Department of Health took a major step in the ultimate eradication of Rubella. Rubella vaccine is now available in Health Department clinics to all individuals regardless of age or sex. Special emphasis is placed on females of child-bearing age. All females participating in these clinics are immunized with Rubella vaccine if they are unable to prove immunity.

The hospital-based Maternal Education Program gained statewide interest through the efforts of nursing personnel and volunteers from the Arkansas Hospital Association Auxiliary. There are currently 60 hospitals participating statewide. Each mother is contacted at her bedside to explain the importance of immunization to the health of their baby and to provide her with an immunization information packet. In 1983, 18,959 mothers were visited by the nurses or hospital volunteers.

In addition to bedside visits, North Little Rock's Memorial Hospital Auxiliary implemented the State's first Hospital Immunization Follow-up Program. Volunteers call the parents when their children are 2 months old, 6 months old, and 16 months old to remind the parents of the immunization schedule and the importance of continuing the series of shots. Major emphasis will be placed on recruiting more hospitals to participate in similar follow-up programs.

Through the Maternal Education Program 95% of all new parents will be contacted regarding the importance of early childhood immunizations.

### *Blood Alcohol Program*

The Department's Blood Alcohol Program worked closely with legislators and with the Governor's Task Force on Drunk Driving in the development of Arkansas' 1983 DWI legislation. The Department of Health plays a significant role in helping to rid our roadways of the drinking driver. Law enforcement personnel and equipment involved in DWI testing are regulated by the Department through training, evaluation, on-site inspection and certification. The scientific expertise of the staff also plays a critical role in many court decisions throughout the State.

### *Tuberculosis Program*

In this year we made a study of the trends in the age-specific case rates for TB from 1961 to 1981. We found the trend to be steadily down, except for persons age 70 and above in whom it has been steadily increasing each year. This is interpreted to mean that there is an inexorable

breakdown rate among the very old who were infected many years ago and that transmission of the infection is rather well controlled.

We have now received tuberculin skin test data on residents of every nursing home in the State which will serve as a baseline in the event of any suspected outbreak in any of the homes. Updating information was also received on all but about 15 homes and these are still being sought. A preliminary analysis of the 22,000 nursing home residents revealed some extremely interesting and disturbing facts which have been put into an abstract and submitted to the American Thoracic Society for presentation at the annual meeting in May 1984.

Approximately 56 physicians worked part-time with the Tuberculosis Program conducting chest clinics and conferences throughout the State. Seventeen hospitals and one nursing home have been contracted for the care and treatment of tuberculosis patients. An average of 49 chest clinics in 40 counties and 22 chest conferences in 9 contract hospitals were held monthly. The average attendance at chest clinics was 7. The mobile x-ray technicians held an average of 20 chest x-ray clinics monthly with an average attendance of 13. A total of 279 residents and employees were x-rayed in 9 nursing homes that were suspected or proven to be harboring an active tuberculosis case. 242 patients were hospitalized in the 17 contract hospitals for an average stay of 14 days.

### *Hypertension Program*

The Hypertension Program sponsored and coordinated a conference for Registered Nurses and Health Educators throughout the State entitled "High Blood Pressure in Arkansas: Special Problems, Special Interventions". The program emphasized patient education strategies to enhance patient compliance, as well as highlighting special considerations in the treatment of the "mild" hypertensive and the black hypertensive.

### *Refugee Health Program*

During FY 1983, the Refugee Health Program provided health assessments for 143 newly-arrived refugees in Arkansas. These included 76 Vietnamese, 19 Laotians, 16 Kampuchians (Cambodians), 12 Iraqi, 11 Poles, 6 Rumanians and 3 Hungarians. They were in ten counties, with the highest number in Sebastian and Pulaski counties. Those requiring further medical attention or case management are referred to appropriate pro-

viders. Interpreter services are provided for Vietnamese, Laotian and Hmong refugees.

The Refugee Program Coordinator co-sponsored with the Social Services' Refugee Program Manager two statewide refugee conferences during 1983. They were each attended by 40-50 people and dealt with issues in refugee resettlement.

The Refugee Program also translated 19 pamphlets and two booklets into Vietnamese and Laotian during 1983. These were about such topics as Immunizations, Tuberculosis, Family Planning, Nutrition and Pap Smears.

#### *Epizootic Diseases*

During 1983, seventy Arkansans were diagnosed positive for tularemia accounting for 22% of the 316 cases reported in the United States. Arkansas had more tularemia than any other state. However, Missouri was second in the nation with 68 cases. Diagnostic criteria was a four-fold rise in antibody titer or a 1:160 titer with compatible symptoms.

In an attempt to determine the reservoir in wild and domestic animals, serology was conducted at random on wild and domestic animals and man. The University of Arkansas at Little Rock in cooperation with the State Health Department is currently testing 350 samples of deer blood to clarify the role of the deer as a reservoir of tularemia. This was considered to be important since every year case histories indicate the disease may have been contracted by dressing a deer.

There is an epidemic of raccoon rabies in Maryland, Virginia, West Virginia, Pennsylvania, and Washington, D. C. Maryland reported 797 rabid animals for 1983 and Virginia 625. All but a few of these were raccoons. We are continually monitoring the raccoon population in Arkansas for rabies by testing at least 50 heads a year, but there have been no positives since 1976. About 150 rats, mice and squirrels are tested annually with no positives being found.

One hundred seventy-one persons received post exposure rabies treatment during 1983. Fifty-one were exposed to laboratory proven rabid animals.

Researchers working in the State of Texas reported that in certain counties up to 5% of the armadillos have been found to be infected with *Mycobacterium leprae*, the causative organism of leprosy or Hansen disease.

A January newspaper article further indicated

that five people in Texas diagnosed as having leprosy had a history of frequent contacts with armadillos for periods ranging from 7 to 40 years. All had swollen red hands covered with plaques; most had extensive lesions elsewhere on their bodies.

Charles Sheppard, M.D., a leprosy expert in the Centers for Disease Control indicated that studies on armadillos in Texas, Louisiana, and Mississippi showed infected animals, but over 1,000 tested in Florida were negative. He indicated that only man, apes and armadillos are known to have leprosy and that they are not in a position to receive samples from armadillos for bacterial identification, but that armadillos in Arkansas should be considered to be infected as are those in our neighboring states. This office has advised of the risk for those making flower buckets or earrings from armadillo shell.

#### BUREAU OF ENVIRONMENTAL HEALTH SERVICES

Jerry G. Hill, Director

#### *Division of Sanitarian Services (General Sanitation Section)*

In response to the Minimum Program Requirements adopted in 1982, the General Sanitation Section conducted follow-up evaluations for all eleven (11) health department areas. Significant improvements were noted.

The Septic Tank Advisory Committee as established by Act 708 of 1983, began meeting in 1983. The first priorities discussed were the details of the committee's operation and how the revenues could be used to both advance the "state of the art" of sewage treatment and disposal and also to assist homeowners experiencing problems with alternate sewage disposal systems.

A statewide survey of existing alternate systems approved by the Health Department was initiated. These systems were checked for proper construction, operation and maintenance, and function. The purpose of the survey is to evaluate the effectiveness and to isolate specific problems associated with different types of alternate systems.

The swimming pool regulations adopted in 1982 were implemented. Training on the new regulations was provided for both county sanitarians and pool operators.

#### *(Arkansas Grade "A" Milk Program)*

The Arkansas Grade "A" Milk Advisory Committee, which consists of three Health Department



members and four Industry members met quarterly in 1983. The members of the Advisory Committee worked with the Milk Program in support of Dr. Taylor Wood of the Livestock and Poultry Commission in establishing regulations to eradicate Brucellosis through calfhood vaccination, accelerated testing and proper destruction of diseased animals. The Advisory Committee sent three members to appear on the program of the Southern Regional Meeting of the National Association of Departments of Agriculture in June 1983, in Oklahoma City, Oklahoma.

A three day seminar for milk Sanitarians and Rating Officers from U. S. Public Health Services, Region VI, was hosted by the Milk Program in Texarkana, Arkansas.

As a member of the Board of the Arkansas Dairy Industry Federation, the Milk Program Administrator is working with other State Agencies, the Dairy Support Industries and the Dairy Industries to improve the quality and sanitary production of milk.

Ten plant and producer surveys and five U. S. Public Health Service check ratings were made on the Arkansas milk supply in 1983. The surveys and check ratings determine the quality of the milk and the effectiveness of the Milk Program. All milk now meets or exceeds the 90% level required by the Interstate Milk Shippers Agreement.

#### *(Food and Dairy Products Section)*

The Rules and Regulations Pertaining to Food Stores, Markets and Warehouses have been totally re-written to conform with the U. S. Public Health Service Model Ordinance. These regulations are currently going through the procedure for final adoption.

Representatives were sent to Texas for Seminars in Retail Food Store Sanitation and the regional Food Evaluation Officers Seminar to gain information which will be helpful in our adopting the FDA model ordinance for Retail Food Stores.

A representative of the Food and Dairy Products Section attended each area meeting for the purpose of clarifying and identifying problems within the Food Service Program.

Inspectional activities in the area of manufactured milk were maintained. These activities included increasing the manufactured milk producer farm inspections from two times per year to three times per year.

The Food Products Section conducted audits in

two counties of each area to assure compliance of minimum program standards. Statewide, significant improvements were found since the previous audits.

Food Evaluation Officers completed an area survey on Area VI and are in the process of conducting an areawide survey on Area III.

The Food Products Section is currently working with FDA on a State Food Evaluation to be performed by FDA which has been scheduled for early 1984. This evaluation will be of great benefit to the food program on evaluation and future development of the statewide food program.

In terms of impact upon the Plan Review program, the two most significant accomplishments for 1983 were the redesigning of the guideline for plan review and the creation of a Sanitarian's Handbook on Plan Review. There was a 10% increase in plans reviewed for food establishments.

All general salvagers were inspected as required and approximately 171 pounds of contaminated food were voluntarily destroyed by management.

In 1983 the Meat Certification Program was conducted by two persons working part-time. They inspected 1,184,623 pounds of meat during approximately 300 visits to local packing plants.

#### *(FDA Contract Section)*

During 1983, the FDA Contract Program continued as an integral unit in the Division of Sanitarian Services. This food sanitation program provides inspectional coverage of wholesale food manufacturers and food warehouses falling under the jurisdiction of the Food and Drug Administration. The contract program assumed responsibility for the inspection of grain elevators in August 1983.

A total of 337 routine and compliance inspections were conducted, during which seventy-seven (77) food and filth samples were collected for documentation of violations. Approximately 4,150 pounds of defiled foods valued at \$1,563.00 were destroyed voluntarily by management resulting from inspections. Forty-four (44) administrative letters were issued to violative firms which resulted in \$54,000.00 in capital improvements made by management in order to comply with applicable laws and regulations.

#### *Division of Engineering*

Due to the extreme weather conditions in December 1982 and their disastrous effect on the public water systems, the Division felt the need to develop and implement an emergency assistance

clearinghouse for our public water systems. A questionnaire was developed and mailed to all public water systems in our State. The questionnaire asked if they would volunteer to participate in our effort. Today we have received over 150 favorable responses and have implemented our clearinghouse. Now we are able to provide names and addresses of public water systems which will provide assistance for all types of emergency problems to those systems in need.

Again severe cold weather during December 1983 caused numerous problems to public water systems in our State. We were able to utilize our clearinghouse. Further, the Division of Engineering maintained almost a complete staff and had to issue 30 boiling orders to ensure the safety of the water to the customer. Due to our actions, no disease outbreaks in the affected public water systems were reported.

With the assistance of the Division of Sanitarian Services, our Division was able to implement the non-community public water supply program under the Safe Drinking Water Act. This program will ensure the safety of drinking water by a transient population (i.e., recreational areas, rest stops, restaurants with their own supply).

The Division is finalizing significant changes to the plumbing program which were started in 1983. Major regulations have been developed for apprentice plumbers and solar water heating. Further, the plumbing code is being revised and updated and the licensing examinations are being revised.

#### *Division of Health Facility Services*

During 1983, the Division implemented the new "one-team" concept approach to the surveying of hospitals. The establishment and implementation of the Hospital Team has not only been a more effective means of surveying and certifying hospitals but has also been more efficient as well. The Hospital Team consists of a Registered Nurse, Registered Dietitian, a Registered Records Administrator, a Registered Pharmacist, and a Microbiologist and allows facilities to be surveyed and certified by only one team instead of two as in the past. The State pays 60 percent of this Team's expenses and the federal program (Health Care Financing Administration — Medicare Certification Program) absorbs the remaining 40 percent of the expenses.

Due to legislation passed by the Arkansas General Assembly in 1983, this office had the respon-

sibility of developing regulations for Hospice Facilities and Abortion Clinics. Both sets of these regulations are being developed through meetings, public hearings, etc., with people directly involved in both areas as well as our Division staff.

Toward the end of 1983, this Division was instructed by the Health Care Financing Administration to obtain computer/word processing equipment which will allow the direct transmittal of surveys of facilities certified in the Medicare Certification Program to our Baltimore Office and will also allow us to computerize our forms, directories, etc.

This past year was one of reorganization, computerization, etc. The Division has maintained, as always, its rapport with the health care facilities and with the citizens of Arkansas. Because it has always been this Division's philosophy that the care and safety of the patient comes first, we will continue to make this our number one goal and not lose sight of this as we strive for better, smoother operation of the Division's functions and activities.

#### *Division of Public Health Laboratories*

The tularemia agglutination testing was expanded in March of 1983 to permit the evaluation of the tularemia problem in wildlife.

Rocky Mountain Spotted Fever testing was expanded in May of 1983 to aid in defining the role of the family dog in transmitting Rocky Mountain Spotted Fever.

Hepatitis B core antibody testing was implemented in March of 1983 to aid in evaluating the need for continued testing of Children's Colony residents and staff prior to inoculation.

Effective July 1, 1983, Act 378 of 1983 repealed the requirement for premarital syphilis serology laboratory certification. Syphilis serology laboratory certification is still required for pregnant females by Act 71 of 1947.

#### *Division of Radiation Control & Emergency Management Programs*

Act 9 of 1983 enabled Arkansas to enter into a compact with other states in this region for the disposal of low-level radioactive waste. As a result of this legislation, the Central Interstate Low-Level Radioactive Waste Compact Commission was organized. Arkansas, Kansas, Louisiana, Nebraska, and Oklahoma are the "charter" members of this Compact. Governor Clinton appointed Frank Wilson, the State's Radiation Control Program Director, as Arkansas' member on the Com-



mission. Mr. Wilson was elected Vice Chairman of the Commission at the organizational meeting in June of 1983.

Considerable time and effort were spent in 1983 to upgrade our Radiation Safety Program. This agency generates a certain amount of low-level radioactive waste and also acquires certain contaminated materials during investigations of incidents. Several equipment and supply items necessary for proper handling and securing of these materials were purchased and are now in place within the Department.

With the many advances in technology and increased usage of ionizing radiation in the healing arts and in industry, it became necessary to update the State's Radiation Control Act. Act 19 of 1983 accomplished this. A new edition of the State Board of Health's RULES AND REGULATIONS FOR CONTROL OF SOURCES OF IONIZING RADIATION was published and disseminated to all of our licensees and registrants.

The Radiation Emergency Response Team and our Nuclear Planning and Response Program staff participated in a comprehensive exercise of the RADIOLOGICAL EMERGENCY RESPONSE PLAN FOR NUCLEAR POWER GENERATING FACILITIES in March of 1983. The exercise was audited by representatives from the U. S. NRC, Federal Emergency Management Agency, U. S. EPA, and designated observers from other states within the region. The results of this audit: the Arkansas Plan is adequate to handle an emergency situation in this area.

#### BUREAU OF COMMUNITY HEALTH SERVICES

Nancy Kirsch, Director

The Bureau of Community Health Services is responsible for the administrative direction and supervision of all field services, personnel, and resources through eleven area offices and ninety-six local health units. In the calendar year 1983, the Bureau of Community Health Services accomplished the following:

- Continued inservice training and staff development for all Local Health Unit Administrators in order to help them develop the most effective services possible within their various communities. This training is provided periodically (at least annually).
- The development and implementation of a system of fiscal accountability in all local

health units. This has been a success. Audits by both the Division of Legislative Audit and internal audit teams of the Bureaus of Community Health Services and Administrative Services have observed no major problems. All ninety-six (96) local health units were audited in 1983. Technical assistance and fiscal accountability workshops were provided by the Bureau of Community Health Services staff to local health units throughout Arkansas.

- The development of a local health unit management evaluation system with an effective date of formal implementation July 1, 1984. The local health unit evaluation system is a management tool for field and central office personnel to use in improving the administrative operations of local health units. It is also used to improve the quality of administrative policy directives established by the central office. The results of local health unit management evaluations are used in long-range planning and in the development of clearer and better minimum standards for health development operations.
- The development and implementation of a uniform information system to provide documentation of services and activities provided by the local health units. The local health unit activity reporting system, with the cooperation of the Division of Records and Clerical Services and others, has been implemented statewide.
- Orientation for county health officers will continue to be held, as needed, for any new appointments. This is an on-going effort to develop an active role of county health officers with the Department of Health.

Many different community health services and programs are offered through local health units. Services that are offered are based on the needs of the community and on available resources. Details regarding these services and programs appear elsewhere in this report.

#### BUREAU OF HEALTH RESOURCES

A. Stuart Fitzhugh, M.D., Director

*Office of Dentists, Pharmacists, Physicians and Veterinarians*

The Office of Dentists, Pharmacists, Physicians and Veterinarians continued to act in its evaluation and advisory role by conducting interdisciplinary

nary reviews of agency health services and programs through surveys of pediatric preventive medicine in child health services and specific zoonoses (Tularemia, bat rabies) of concern in Arkansas. Liaison with national professional societies and agencies provided several briefings and updates regarding the future status of public health programs affecting Arkansas.

#### *Division of Pharmacy Services*

The Division of Pharmacy Services has successfully completed a statewide program to improve accountability of drugs used by the various programs of the department. A program to provide for on-site pharmacy services in each of the county public health units was started in October, 1983, and is to be completed before 1985.

The division was responsible for the quarantine and destruction of over one million dose units of controlled substances submitted. Over fifty thousand dose units were destroyed in the field. Thirty-three investigations of legitimate drug handlers, and eighty-four inspections of facilities that handle drugs were conducted.

The division assisted and provided consultation to innumerable state and federal agencies in matters pertaining to drugs, cosmetics, and medical devices, and the laws and regulations involved with their handling. It was also included in the U of A College of Pharmacy Student Rotation System and provided for the training and instruction of two senior pharmacy students who each served a five week rotation.

#### *Office of Environmental Training and Professional Development*

The Office of Environmental Training and Professional Development (ET&PD) provides training and continuing education for both central office and field environmental personnel. Workshops included: Effective Communication, Conflict Resolution, Problem Solving and a Management Film Fest. Orientation and training was coordinated for 10 new sanitarians and a Basic Supervision/Basic Management course was presented to 12 Sanitarian Supervisors. Four environmental newsletters were published and distributed. The Office monitored 25 employees taking CDC study courses.

The Office of ET&PD also provides training and information for the public on environmental topics. The office presented seven environmental workshops throughout the State and assisted

sanitarian/environmental personnel with 70 various presentations/workshops. Brochures for the Division of Engineering and the Emergency Communications Center were developed, along with a revised brochure for Sanitarian Services. The office also participated in developing a Community Health Services brochure.

News releases from the Consumer Product Safety Commission were distributed and an Environmental Health Week was sponsored by the office. Pesticide training for Rural Health Initiative Clinics was coordinated.

#### *Division of Records and Clerical Services*

The Division of Records and Clerical Services provides professional direction to eleven Area Records and Clerical Supervisors, who in turn provide professional direction to approximately 250 Administrative Support Personnel in Local Health Units and Area Offices. They also provide forms orientation to all other personnel within their assigned areas, and also serve as members of the Area Management Core Teams.

Continuing education is provided to Area Supervisors. This is done through monthly staff meetings and on-site visits. The Area Supervisors provide continuing education to local staffs through quarterly meetings. An Annual Statewide In-Service Workshop for Administrative Support Personnel was held in November, 1983. The division continued developing staffing patterns and standards for local and Area Administrative Support Personnel. Continued guidance for forms development and forms management was provided to all Bureaus, Divisions and Programs within the Agency.

Participation in several special projects included: developing an orientation manual, completing several desk audits, continuing work with all Bureaus in an effort to update all Record Inventories and Dispositions by the Records Manager, assisting in the development of an Activity Reporting System, training of Area Document Examiners to check Home Health billing, assisting the new AFDC Project, continuing the monitoring of the Family Planning Fee System in Local Health Units, assisting with procedures for the Loan-A-Seat Program, assisting with the new Policies and Procedures Manual, assisting other divisions with their filing systems, and serving as members of numerous committees.

#### *Division of Public Health Education*

The Division of Public Health Education, em-



phasizing education in child health, developed 10 new lesson plans for 70 well baby clinics. Materials promoting agency services and healthy lifestyles such as brochures on "Community Health Services", "Toy Safety", "Welcome to the Family Planning Clinic", and a comprehensive "Family Planning/Sex Education Resource Guide" were developed and distributed throughout the State. In response to public concerns, informational materials (i.e., news release and public service announcements) regarding topics like Acquired Immune Deficiency Syndrome (AIDS), the recall of stuffed baby chicks containing arsenic, heat related illnesses, and coping with head lice were distributed to print and electronic media.

The division addressed Risk Reduction by conducting a statewide survey on the prevalence of health risk factors in Arkansas. In conjunction with the Department of Health and Human Services annual competition, a statewide Community Health Promotion Award Program was coordinated to recognize outstanding achievements locally. Training on smoking interventions for hypertensive patients was provided to public health nurses. Other activities included smoking cessation clinics and presentations to businesses, schools and the general public on the importance of a healthy lifestyle.

Over 8,500 people utilized the Resource Center which provided films to agency personnel, schools, organizations, hospitals, nursing homes, dentists, doctors, public utility systems and industrial manufacturers. Overall the Division serviced more than 38,000 user requests for audio-visual, printed or educational materials relating to the promotion of health education. All maternity materials available through the Resource Center are free or can be checked out on a loan basis. The Division worked in cooperation with other state agencies and related associations to provide these materials.

#### *Division of Medical Social Services*

The Division of Medical Social Services supported staff in several new areas in 1983. A social worker was hired to direct a maternal education project within the Immunization Program. New social workers were also hired to provide coverage for patients in several parts of the State previously uncovered.

The division director participated in the Governor's Task Force on Children and Youth. The purpose of this committee is to reorganize all

services for children and youth which are currently in the Department of Human Services.

Staff produced a videotape on how to identify potentially abusive parents. The tape is being used in teaching staff both in the Health Department and in the community. The videotape will be presented in 1984 at the National Association of Social Workers Symposium on Health in Washington, D. C.

#### *Division of Nutrition Services*

The Division of Nutrition Services experienced extensive personnel changes in 1983. In the Central Office there is a new Nutrition Service Director, Assistant Director, and Maternity Nutritionist. The Division was active in assisting the WIC Program in obtaining a WIC Nutrition Education Coordinator. Two area nutritionist vacancies were filled. Two new field positions were made available and one of these was filled in 1983. With these changes and additions, services have been increased to area clinics and clients and nutrition personnel can assume a larger role in education of health personnel and the public.

The division has been active in the inservice education of public health nurses with presentations on nutrition's relation to hypertension, nutrition, and family planning. Nutrition Services was instrumental in providing nutrition presentations at a continuing education session for family practice physicians and nutritionists participated in two statewide WIC program staff meetings. Nutritionists have worked with the public in prenatal nutrition classes, and in several sessions on therapeutic (diabetic and restricted sodium) diets. Nutrition Services and Agricultural Extension coordinated an Arkansas presentation of a National teleconference on breast-feeding.

Information was provided to the Consumer Protection Division of the Attorney General's Office and the Food and Drug Administration when there was concern about nutrition issues and has served as a resource to the public about controversial weight control regimes. Arkansas' Congressmen, through correspondence, were made aware of the Health Department's interest in the need for sodium labeling on foods.

#### *Office of Policies and Procedures*

The Office of Policies and Procedures is responsible for coordinating policies, procedures, and general information that affect all employees of the Health Department. This office worked with various Bureaus, Divisions, and Programs in

transmitting over one hundred and eighty (180) communications to personnel in the Field and the Central Office.

In addition, this Office coordinated the writing and revising of administrative policies and procedures, resulting in the formation of the first volume of the projected multi-volume revision of the Arkansas Department of Health (ADH) Policies and Procedures Manual. This Office typed, copied, and distributed one hundred and fifty (150) copies of the Administration Volume to Area Offices, Local Health Units, and Central Office locations.

Workshops were conducted on "Writing For Manuals" and training sessions on new procedures for transmitting policies, procedures, and general information. Throughout the year, the Coordinator of Policies and Procedures provided technical assistance to all employees using and updating the ADH Manual.

#### *Division of Public Health Nursing*

During 1983, several new nursing management people came on board, including the Director of Nursing, Inservice Director and Nursing Supervisors for Areas II, V and XI.

One of the highlights of the year was a one-day workshop co-sponsored by the Division of Nursing and the Public Health Nursing Association. The working session in October, 1983, was devoted to work on standards for nursing.

The divisions of Maternal and Child Health and Home Health, through the coordination of the Division of Nursing, has established inservice training on a continuing basis for Health Department nursing staff.

### **BUREAU OF ADMINISTRATIVE SUPPORT SERVICES** Tom Butler, Director

#### *Data Processing Division*

The Agency Information System Plan has been updated three times during the year and progress has been made on several of its top items:

- A new computer system has been installed which is capable of supporting state-of-the-art data processing development tools and techniques. With adequate training and experience with the new system, the productivity of the D.P. staff should increase significantly.
- A communications link has been added which joins ADH to the State Department Com-

puter Services and allows the use of modern statistical analysis and reporting software for the Division of Vital Statistics.

- The Word Processing capabilities of the new computer system will allow ADH to build an Agency wide word processing structure which can be implemented with uniform, consistent standards for all participating Divisions of ADH.
- The hardware and software needed to establish the use of a national Medicare/Medicaid Automated Certification System has been ordered in support of the requirements of the ADH Division of Facility Services.
- Work has begun in implementing the South Carolina WIC data processing system at ADH.

#### *Division of Vital Records*

The Vital Statistics Act of 1981, (Act 120) section 15 (a) and (d) was amended to require registration of spontaneous fetal death after completion of twenty (20) weeks gestation or more, or weighing more than 500 grams.

The Certification of Live Birth has been revised to include occupation and industry of mother and father. The health department is attempting to build an epidemiological research base for occupation health monitoring. The occupation information on the birth certificate will serve as a tool in health hazard surveillance.

#### *Division of Personnel Management*

The Personnel Division has developed and implemented a new Performance Evaluation System. Plans have been made to start the development of a computer based Personnel System which will greatly enhance the capabilities of the division.

### **Arkansas State Medical Board**

January 1, 1983 - January 1, 1984

The officers and members of the State Medical Board are as follows:

George F. Wynne, M.D., Chairman  
 W. Ray Jouett, M.D., Vice-Chairman  
 Hugh R. Edwards, M.D.  
 Frank M. Burton, M.D.  
 John F. Guenther, M.D.  
 Vernon H. Carter, M.D.  
 Bascom P. Raney, M.D.  
 Warren M. Douglas, M.D.  
 Mr. John B. Currie, Sr.  
 Mr. Dewey Lantrip  
 Joe Verser, M.D., Secretary-Treasurer  
 Robert M. Cearley, Jr., Attorney



The State Medical Board published a 1984 directory which has gone to the printer and we should be able to mail copies to each physician at a very early date.

The 1983 Legislature passed legislation which requires dispensing physicians to register with the State Medical Board, and comply with all provisions of the Dispensing Act. Physicians who have not dispensed in the past will be required to get approval from the Board before they can dispense drugs. Applications can be obtained by writing to the secretary of the Arkansas State Medical Board.

The secretary's office is receiving a large number of complaints of physicians overcharging. Under Arkansas Statutes, the Board can take action against a physician for persistent and flagrant overcharging. The Board did take action against one physician for persistent overcharging.

A yearly financial report of the Board's activities, prepared by Johnston Freeman & Company, has been sent to the office of the Arkansas Medical Society, a summary of which is included in this report.

The Board investigated every case of violation of the Medical Practices Act and every complaint filed against physicians reported to the secretary during the year.

The State Medical Board licensed 146 physicians by examination and 138 physicians by reciprocity during the year 1983.

Following is a summary of the Board's proceedings:

Physicians registered for 1983:

Resident 3,183

Non-Resident	2,199
Physicians licensed by examination	146
Physicians licensed by reciprocity	138
Physicians certified to other states	98
Licenses revoked for non-payment of annual registration fees	38
Licenses suspended for non-payment of annual registration fees	144
Licenses suspended for violation of Medical Practices Act	8
Cases pending for violation of Medical Practices Act	2

# ARKANSAS STATE MEDICAL BOARD BALANCE SHEET

June 30, 1983 and 1982

Cash in banks —	<i>June 30, 1983</i>	<i>June 30, 1982</i>
Bank of Harrisburg, AR		
Checking Account	\$ 36,670.93	\$ 48,602.89
Certificates of Deposit	179,120.89	148,411.83
Accrued interest		
receivable	5,024.66	5,205.83
Office Equipment	9,283.35	6,227.51
Less: Accumulated		
Depreciation	(4,204.95)	(3,078.80)
<b>TOTAL ASSETS</b>	<b>\$225,894.88</b>	<b>\$205,369.26</b>
<b>LIABILITIES AND FUND BALANCE</b>		
Accounts Payable	\$ 669.35	\$ 3,887.37
Payroll taxes withheld	—	824.82
<b>TOTAL LIABILITIES</b>	<b>669.35</b>	<b>4,712.19</b>
<b>FUND BALANCE</b>	<b>225,225.53</b>	<b>200,657.07</b>
<b>TOTAL LIABILITIES &amp; FUND BALANCE</b>	<b>\$225,894.88</b>	<b>\$205,369.26</b>

There's a practical hint  
waiting for you in  
every exhibit

Find out about  
insurance coverage  
available to members  
of the Society

Exhibits provide a  
communication  
network — Tune in

Get the latest ideas on  
drug therapy from our  
pharmaceutical  
exhibitors

Want to talk about  
investments?

Visit the  
exhibits

Exhibits — a worthy  
feature of our  
educational program

Get the most from the  
meeting; see the  
exhibits

Something new can be  
learned at every exhibit

Our exhibits are the  
most representative  
in our history

Get the modern ideas  
in our exhibits

Want the latest data on  
antihistaminics? See  
our exhibitors

Get the facts and  
background — Visit  
exhibits

Something new in  
hypertension — See our  
exhibitors

## **EXHIBITS ARE AN IMPORTANT PART OF A CONVENTION**

Intermissions provided  
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Interested in the current  
state of antibiotics?  
Call our exhibitors

Exhibits contribute to a  
successful meeting

Get the story at the  
exhibits

What's the latest in  
steroids? See our  
exhibitors

If your X-ray machine  
is an old-timer, see our  
X-ray exhibitors

Exhibits constitute a  
symposium on  
therapeutic progress

Keep abreast of  
scientific advancement  
— See exhibits

Need help on that  
difficult case — See  
exhibits

Need new  
electrosurgical  
equipment? See our  
exhibitors

What makes a medical  
meeting click?  
Visit exhibits

Medical history in the  
making — Visit exhibits

What would your  
meetings be without  
exhibits?

Something new in  
hypertension — See our  
exhibitors



April, 1984

# THE JOURNAL OF THE

# Arkansas MEDICAL SOCIETY

Vol. 80 No. 11

FORT SMITH, ARKANSAS

U.C. SAN FRANCISCO  
MAY 1 1984

## Important products from Dista

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## THE CARE OF BURNS Early History to Present\*

David W. Robinson, M.D.\*\*  
Professor of Surgery

### Introduction

Fire has been lauded and cursed from the first of recorded history. It was considered one of the four primary elements by the Greeks but has always been feared because of the destruction and injury it can cause. The concept of hell embodied eternal burning as the worst of all fates.

Burn injuries are among the greatest of challenges and because of the difficulties of caring for them they have been neglected in the past. Modern plans of treatment have evolved principally in this century although some of the ground work was laid in the previous century. For the most of recorded time, treatment was directed toward care of the local wound to relieve pain. Bizarre mixtures of diverse and nonsensical elements were used empirically by the ancients and these same ointments and dressings were handed down for two thousand years with scarcely any understanding of the general care of the patient.

The problem existing in the world today is of first magnitude. In the U.S.A. alone each year, two million people are burned sufficiently to seek medical attention, ten thousand die annually, huge costs must be born for the extensive hospital and outpatient care, a very real impact is made on productivity because of the loss of manpower, and there is great personal suffering, crippling, and disfigurement.

### History as Documented over the first Two Thousand Years plus:

#### *Greco Roman*

#### **7th Century B.C.**

Aristotle—made observations about the pathogenesis.

#### **460-317 B.C.**

Hippocrates—advocated strange mixtures for local care.

#### **100 A.D.**

Celsus—wrote about many bizarre dressings.

#### **129-199 A.D.**

Galen—recommended a dressing of lime and sulfur in oil, which he called Greek Fire.

#### **7th Century A.D.**

Paulus Aeginta—strange emollient preparations used as detergents, hot and cold, to prevent blistering.

#### **1719 Richard Wiseman (English)**

Described 3 degrees of burns and described his own sensation from burning of his own fingers, noting the painless surface of a deep burn. He recommended refrigerants and also fire (hot iron) stating that fire calls forth fire. He used splints to avoid contracture.

He described a boy who, on Guy Fawke's Day, November 5th, suffered a burn when a spark ignited fireworks stuffed in a pocket. (The same accidents occur not uncommonly on our 4th of July).

#### **1688-1738 Boorhaave (Dutch)**

The leading doctor of his time was burned by an exploding still. In addition to local treatment, he bled and purged himself—showing how inadequate was the knowledge of the day.

#### **1790 Carron Oil**

Because of many burns at the iron foundry, a mixture of lime and linseed oil was used on burns at the Carron works. It was a popular form of therapy until 1900 when it was stopped being used because of its poor antiseptic qualities.

#### **1792 David Cleghorn (Scottish)**

A brewer in Edinburgh did not like the way burns were being cared for so he treated them himself and thereby developed quite a reputation.

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Locally he used poultices of vinegar and chalk but opposed purges which he thought were harmful because they made the patients weaker. The medical profession did not concur.

**1797 Edward Kentish (Edinburgh)**

Having observed many fire damp burns in the Collieries, wrote a book, "Essays on Burns". He wrote about the neglect of burned patients but was severely criticized by John Thompson (1813) who spoke of Kentish's "faulty understanding and of his unintelligible theoretic opinions".

**1799 Sir James Earle (English)**

Used crushed ice and ice water as a good analgesic and a means of preventing edema. Alcohol was not to be used internally but only as a fomentation for burns and ulcers.

**1780-1785 George Ballingal (English)**

Recommended cold instead of the greasy dressings of Larré (Napoleon's surgeon), stating that cold was much easier to get and to apply than special dressings.

**1832 Baron Von Dupuytren (French)**

Famous surgeon, thoroughly hated by his colleagues. Classified burns in six degrees.

**1833 Curling's Ulcer**

In 1842 published his findings found at post-mortem of burned patients. Imlach, Disbarreaux, Dupuytren, and Sam Cooper had published previously reports of gastroduodenal ulcers in burned patients, but Curling's name has been attached to the ulcers.

**1811 Dry Corded Cotton**

Used first described in Baltimore, dry and left undisturbed.

**1828 A. D. Anderson (American)**

Objected to the common misdirected habit of changing dressings several times a day and recommended the fluffed up dressings to be left alone for some time.

**1799-1870 James Syme (Edinburgh)**

Recommended cotton wool applied with moderate pressure for best results. He said that "There was no doubt what to do for deep burns" and that there was no uncertainty except at first. Founded the first burn hospital in Edinburgh at the Royal Infirmary (1843). He said he could not put such patients on his general surgery wards because it might endanger the other patients because they stank. Patients were sequestered in a nearby shed as a temporary arrangement, but finally a ward for four men and four women was assigned for burn care under the direction of a junior acting

surgeon. This ward was called the Burn House (just one floor above the Fever House). Plagued with septicemia and erysipelas, he wanted these patients separated from the others.

**Antiseptic Era**

**1827-1912**

The discovery of bacteria as the cause of infections had a profound effect on medicine. Joseph Lister's concept of cleanliness and antisepsis changed the medical world for good and for bad; methods of control of bacteria prevented infection, but using carbolic acid directly on burns was a serious mistake. Boric lint and carbolic were recommended (1867) but Holmes (1875) advised against such local therapy because he thought it would cause trouble, and it did.

Although the mortality was shown to be increased by the Listerian method over the Pre-listerian, the method was employed up to and past the turn of the century. The emphasis was still on wound care. It didn't matter if the patient died but at least he lay not in pus until he died (Moyer). It was shown much later (1946) that 2.5% phenol applied to the burn caused conversion of partial thickness to full thickness loss of skin. Renal failure was a common result of phenol absorption.

**1900**

Picric acid and boric acid were applied as local burn treatment, but the mortality was appalling. Trinitrophenol (picric acid) caused tachycardia, diarrhea, fever, dysuria, and renal failure (with red, green, or port wine urine). In 1903 McLennon and E. J. Elliot in 1906 confirmed deaths due to picric acid. Similar problems were reported from the absorption of boric acid (1910-1918).

**1875**

Hydrotherapy (baths and wet dressings) has been a part of burn care from ancient times. Passavant (1873) treated thirteen patients burned in a pyrotechnics lab in Frankfurt-am-Main. Seven died as a result of the fire. Wet saline dressings were commonly used in Glasgow between 1885 and 1910, a solution of soda bicarbonate used instead of saline for the first 24 hours. Wet and wet-to-dry dressings are used frequently today for infections and to aid by mechanical debridement the cleaning up of the wound.

Immersion of burned extremities in a hypochlorite solution held in a water tight envelope (Stannard) was promoted by Bunyan as a method of allowing early movement of joints. This had



a brief period of popularity but was never a commonly accepted practice.

### **Sealing and Tanning**

Sealing of the burn wound surface has been employed from the earliest writings. The use of hot waxes, oils, and ointments has been the standard of local care and even today butter or grease applied to the fresh burn is a common home remedy.

The spraying of a plastic over the surface was later recommended but not accepted. The death of young boys who had been gilded was remembered. As early as 1858, collodion and castor oil was used in King's County Hospital as a seal but the results were apparently not satisfactory.

Tanning or drying of the surface have also been methods in vogue since posterity.

#### **1858**

The use of tannic acid as such was reported but ink and tea, each containing tannic acid, have been used for centuries.

#### **1925**

Davidson (Pittsburg, PA) introduced a method of spraying on the burn the tanning agent which quickly formed a nice tough, nearly impenetrable eschar. It was easy to apply and was widely accepted as the proper treatment for immediate burn care. Studies by Dunbar showed the mortality for tanned burn patients was higher than that of controls. In 1942, hepatic failure was suspected and it was proven by McClure in 1944. By tanning, partial thickness burns were converted to full thickness ones. This method was finally put to rest in the late 1940's.

Another method to be condemned was one used in the period just before tanning and that was the application of hot paraffin wax, which succeeded only in adding further thermal insult.

#### **1937**

Other agents were employed in an effort to kill bacteria. Aldridge tried gentian violet alone in 1933, Bettman (1936) added silver nitrate to the tannin acid process, and acriflavine, brilliant green, and gentian violet were used in combination, the triple dye method, but with no proven therapeutic improvement of results.

### **Pressure Dressing Method**

#### **1942**

Koch and Allen reported greatly improved results by the use of bulky pressure dressings, wrapping elastic bandages over fluffed gauze with a single layer of fine meshed gauze next to the

wound. The method was widely accepted as standard care, especially by the Armed Forces at a time in World War II when many burns were being incurred. Leaving the dressing alone after an initial gentle cleansing was a real advance, but the claim made by some that the amount of edema fluid extravasated was lessened by the pressure dressing was never proven.

### **The Sulfas**

#### **1940's**

Sulfanilamide powders and various sulfas in oil were applied to burned surfaces. At a meeting of the National Research Council in 1943, a group of distinguished surgeons, after studying a large number of burns, went on record that "you cannot withhold the benefits of sulfanamide drugs", but Evarts Graham commented that the sulfas had been disappointing and that their use would not replace surgery. At the same time, John Lockwood extolled the systemic use of a new drug called penicillin reported a few years before by Fleming. Small amounts of this substance were made available to the Armed Forces before the end of the war. This was the beginning of antibiotics.

### **The Exposure Method**

#### **1949**

The use of topical agents for bacterial control was largely abandoned after wide acceptance of the exposure method, popularized by A. B. Wallace (Edinburgh) in 1949. Exposure had been tried before by Copeland in 1887, Reid in 1898, and Wagner in 1900, but not much had come from these reports.

Col. Edward Pulaski of the U. S. Army Surgical Research Team had observed Wallace's cases and introduced the method in collaboration with Col. William Amsbacher for use at the newly built Brooke Army General Hospital in San Antonio. Blocker (Galveston) quickly accepted the method and helped popularize its use. The plan was not one of neglect, but required diligent care to keep the wound dry and to prevent a wet eschar. Cradles, heat, and air blowers were used in the drying process.

### **Hydrotherapy**

Not satisfied with any previous methods, cleansing daily with wet dressings frequently changed, immersion in tanks of warm water or saline, and flushing off the surface with water sprayed on under slight pressure helped keep the wounds cleaner, but has some disadvantages. Although

there was less infection and the patients suffered less at dressing changes, electrolyte and protein losses were very real. Such methods used first in the Greco-Roman era are still very much in vogue today.

#### **Local Chemotherapy and Antibiotics**

##### **1963**

In the early 1960's, Carl Moyer (St. Louis) found that, by the use of wet soaks of a dilute of 0.5% silver nitrate solution applied to the burn surface, certain infections chiefly from gram negative bacilli could be controlled. Fewer patients were lost from such infections, mostly caused by *Pseudomonas aeruginosa*, but there were complications, mainly abnormal electrolyte losses and a prolonged sloughing time of the eschar. Furthermore, everything wet by the solution turned black from oxidation of the silver.

A sulfa drug, mafenamide, had been reported by the Germans in the 1930's to be a useful bacteriostatic agent when applied in solution to open wounds, but the method gained little popularity until very good results were reported by Col. Moncrief at the Brooke Army General Hospital (1966).

##### **1966**

Gram negative sepsis, which had become more evident since more patients lived longer with better resuscitative methods and the use of systemic antibiotics, was partially controlled as was evidenced by lowering of expected losses.

##### **1970**

Charles Fox of New York produced a combination of silver and sulfadiazine commonly called Silvadene (Marion Labs, 1970) which rivalled the results of treatment with mafenamide. This new drug, in a cream base, had some advantages because it did not affect respiration as did mafenamide, which interfered with respiratory anhydrase action producing tachypnea and alkalosis from the lowering of CO<sub>2</sub>. Silvadene does produce a temporary leukopenia.

Antibiotic ointments, chiefly gentamycin, bacitracin, and others have been used locally but without the same degree of success as achieved by the sulfa drugs. Iodine (povidone iodine) used as a local antibacterial agent has had widespread use, but Silvadene is the most widely used at time in this country.

#### **Resuscitation — Fluid Replacement**

Although Hornby (1833) and Tappenir (1881) had made fundamental observations that patients

in burn shock needed replacement of fluids lost from the circulation, it was not until the turn of the century that adequate replacement of diminished fluids was accomplished. Parascando of Naples in 1901 (influenced by Guido Bacelli) and Weidenfeld of Vienna in 1905 treated patients by giving saline intravenously. In 1905, Hardar Sneve of St. Paul, in an important paper in J.A.M.A., advocated the use of saline intravenously and by hypodermolysis. He also recommended early coverage with skin grafts. Survival of 54 percent of patients with burns of over 25 percent of the body was reported. He gave his fluids by mouth and saline by rectum to help restore circulating fluid volume.

##### **1921**

Frank P. Underhill of Yale has been given the major credit for the use of fluids for burn shock. Twenty patients burned in the Rialto Theatre fire (New Haven) were studied carefully by him, especially in regard to the hemoglobin, hematocrit, and chloride findings in blood. Subsequent studies of animals burned over one sixth of their body surface revealed that they would lose over 70 percent of their circulating volume in 24 hours.

Blood replacement had been recommended to treat shock on the basis that there was a diminished blood volume. Davidson, George Pack (New York), and Riehl, Sr. (Vienna) gave blood for burn shock; Darrow, Elkinton, and others preferred plasma. An additional rationale for giving blood was to treat the effects of alleged circulating toxins produced by the burned tissues. Exchange transfusions had been recommended by Robertson and Boyd and by Ravdin and Ferguson to eliminate a suspected burn toxin and to add blood for volume. The toxin theory was hard to put down, persisting even to the point of development of a useless antitoxin. This concept reflected a lack of understanding of the basic pathophysiology.

Plasma was the thing to give in the 1940's, although Rosenthal and Fred Collier, later, could not find any superiority of the use of plasma over saline. Collier in 1942 suggested that workers should go to the lab and find out what is wrong. At that time, the effect of the amounts of fluids given was monitored by the pulse rate, blood pressure, urinary volume, mental orientation, and the feeling of the patient. An earlier concept of giving 100 cc. of plasma for each degree of rise over normal of the hematocrit had been discarded by the foremost workers.



**1940's**

The Pearl Harbor disaster (1941) produced many burns which were a terrible challenge. Soon thereafter (1942) the Coconut Grove fire (in a Boston night club) pointed up the need for better understanding of the burn problem. Oliver Cope and Francis D. Moore of the Massachusetts' General Hospital, where many of these patients were received, undertook their care and began some fundamental research which led to the conclusions that major fluid losses were inside and not outside the body. Replacement needs were calculated on expected losses based upon the size of the patient and the extent of his surface burned. Many other findings were made about the changes affected by stress. Cope recommended early aggressive removal of the eschar and closure of the wound, a contribution of value although not original with him.

Based partly upon conclusions drawn by Moyer from laboratory findings in burned animals, a joint clinical study was instituted in Detroit (Abbott and Hirshfield), in Eloise, Michigan (Moyer), Parkland Hospital in Dallas (Moyer later) and a hospital in Kankakee, Illinois. The standard protocol for treatment included a dry occlusive dressing for the burn wound, balanced saline and whole blood for shock, and a buffered salt solution ( $\text{NaCl}$  2 parts to  $\text{NaHCO}_3$  1 part, called Moyer's Solution) to be given by mouth unless the patient was nauseated or vomiting. By this regimen it was demonstrated that most patients could be kept alive for several days, at least, thru the shock phase.

For an understanding of how the fluid replacement regimens and formulas were developed, it is necessary to determine the extent of the surface area and depth of burn involvement of the skin. One of the best charts, although by no means the first (many preceded) was that developed by Berkow (1924), who determined the relative surface areas of various anatomical parts in relation to the surface area of the body as a whole. These figures were accurate and widely used. The rule of nines, (Pulaski and Tennison 1949) superseded Berkow's charts because the figures of nine percent of each anatomical part was easy to remember, each arm and the head and neck areas representing nine percent each, each lower extremity two units of nine percent with the dividing line the knee, and the trunk, fore and aft, two units of nine each (total four units) with the

lower rib cage margin the dividing line. It was readily appreciated that the younger the patient the greater the surface area represented by the head, neck, and trunk rather than the extremities. Another plan was the rule of fives developed by Blocker and Lewis, but the "Rule of Nines" has been the more generally accepted.

The first widely accepted formula as a guide for early fluid replacement was that of Everett I. Evans (Richmond). Moyer's Budget, the Massachusetts' General Hospital formula, the Brooke formula, the Monafo plan, and the Parkland Regimen were all based on what was considered by the authors to be the appropriate replacement for the fluids and electrolytes lost. Differences are not so much in total amounts as in the kinds of fluids. Balanced or buffered saline make up the basis of most of them, but some use colloids in addition and some use more concentrated salt. All have been useful but none should be followed as one would a cook book. The weight of the patient, his percentage of body surface burned, and the depth of the burn are the critical factors. Amounts for children should be proportionately scaled down. Fluids by the oral route are favored more by Moyer and concentrated saline (3%) is advocated by Monafo who gives less total fluid volume for replacement early. In general, the Parkland formula has been widely used but caution must be taken not to give too much fluid which may produce edema, especially the pulmonary type which may be deadly on top of smoke inhalation injury. Careful monitoring, especially attention to the hourly output of urine, is important. Besides the standard vital signs, more sophisticated monitoring by electrocardiogram, direct arterial line pressure measurements, and central venous pressure, the best being wedge pressures in the right heart, are additional means of surveillance.

Most patients survive the shock phase today because of aggressive well planned fluid replacement. The question of the place of whole blood, plasma, saline, and buffered salt solutions has not been settled as to the appropriate amounts of each.

**Wound Care and Coverage**

Patients with superficial burns generally heal over the epithelial surfaces in 8 to 14 days unless infection supervenes. In spite of careful wound care, local and systemic antibiotics, and maintenance or bolstering the patient's general body

condition and defenses, without wound coverage the patient remains at risk. Penicillin type antibiotics are given prophylactically for the first few days to prevent the severe and often lethal early streptococcal infections of the burn wound; antibiotics are reserved afterwards for the bacteria found on culture to be sensitive to a specific drug. Tissue biopsies, measuring quantitatively the number of bacteria present per gram of tissue, help predict when the wound can be safely closed by a skin graft. Bacterial counts expressed in numbers per gram of tissue as high as  $10^5$ th power or above usually indicate a level unsafe for closure (Robson and Krizik, 1973). Continued debridement, tubing, more frequent changes of dressings and appropriate systemic and local antibiotics or chemotherapy are indicated to lower the count to a safe level (below  $10^5$ th).

Today there is practically no disagreement about the removal of dead tissue; arguments still exist as to when, but, in general, excision of the burn wound as early as possible is favored in most centers. Early excision was suggested by Leo Eloesser in 1942, Cope in 1947, later by McCormack, (1962) and others but the concern was over the excessive loss of blood from an unstable patient undergoing a large wound excision. Ample evidence supports the concept that the best possible treatment is to excise deep burn wounds and cover with skin grafts as soon as possible. If there is not enough skin from the available donor sites, homografts are the next best coverage and, after that, heterografts, amniotic membranes, or a skin substitute. Such a synthetic membrane (Burke) will help prevent continued loss of fluids and may clean up an infected surface so as to allow successful autografting in a few days.

In questionable dermal burns where the depth cannot be determined by observation only, or by fluorescence by injecting fluoresceine and observing under a Wood's light, wound biopsies examined by the frozen section technique are useful. Tangential excision (Janzekovic 1970) down to good bleeding points in the dermis is a useful procedure, although experience is necessary to be certain of viable depth. Grafts placed upon dermis after adequate hemostasis will hurry the healing process and may allow further epithelialization by epithelial growth from the remaining viable skin appendages (hair shafts, sebaceous, and sweat glands). The use of CO<sub>2</sub> laser (Mac-Millan 1978) has been helpful to excise the burn

wound with less blood loss than by conventional excision, but with considerable prolongation of the operating time.

#### **Enzymatic and Acid Debridement**

Various agents have been employed to affect earlier dissolution of the eschar in lieu of surgical excision. Acids, chiefly pyruvic acid, were employed by Harvey (1945), but were abandoned because of severe pain and further tissue destruction. Enzymes extracted from various bacteria (streptococci, clostria, and others) were found to be ineffective or too destructive or toxic. Papain (beef tenderizer), concentrated sugar granules, and an enzyme from *B. Subtilis* have been somewhat more helpful but not completely accepted. Travase (Subtilans from *B. Subtilis*) will soften a tight coagulated burn surface which is constricting an extremity sufficiently to impede circulation and to free a fixed anterior chest wall that is limiting respiration. Escharotomy and even fasciotomy incisions are used for the same purpose. Such innovations as these are of recent origin without long historical precedence.

#### **Skin Grafting — Autografts**

The technique and success of skin grafting dates back to early India but had little practical significance until thin split grafts were obtained. Thin "epidermic" grafts were reported by Reverdin (1869) and slightly thicker ones by Ollier (1872) and Thiersch (1874). Skin transferred to wounds grew permanently. Halsted (1897) applied split skin grafts to the freshly operated wound for closure of defects after radical mastectomy. Small deep grafts called pinch grafts, (John Staige Davis 1914) successfully used to cover large granulating wounds, were popular up to World War II. Blair and Brown (St. Louis) cut large thin sheets of split skin with an open large knife, frequently using a vacuum box to raise up the skin in advance of the knife. Such a surgical procedure was a feat and practiced by only a few surgeons who had mastered the art.

In 1938, Padgett reported the development of a new instrument called the dermatome which could consistently cut skin evenly in large sheets at a predetermined thickness. Brown (Indianapolis 1947) produced an electrically driven machine which cut strips of skin, even and thin, and Hargest (1950) reported another skin shaving machine whose oscillating blade was driven by air pressure. All of these new instruments put into the hands of the less skilled or practiced



operator the ability to obtain safely large sheets of skin from many donor sites.

"Pie crusting" (making many small incisions in the graft) had been in practice for many years. Its purpose was to let out blood, serum, or pus from under sheets of skin which should be adherent to the wound surface for a "good take". Meshing machines were developed early. Lanz of Amsterdam in 1908 cut skin as one makes an expanding paper doll for the purpose of expanding the graft to cover more wound surface area. In the 1960's, several meshing devices were put on the market, the most commonly used one being the Zimmer model. Not only would the skin be expandable, but drainage from beneath the graft was assured. Attempts to cut skin by mincing it into very small pieces to be scattered over an open wound (Najarian, 1957) have not been successful, nor have the epithelial sheets grown in tissue culture. Freezing, first reported by Ollier in 1872, was not possible practically until the 1960's, but skin banks now preserve skin in a freeze-dried state for years. Such frozen skin properly processed can give permanent coverage.

#### **Homografts, Heterografts and Artificial Skin**

Skin grafts (called homografts or allografts) from other than the same person are rejected in a characteristic pattern. Except for identical twins (Padgett, Blandford, 1953), the dissimilarity of proteins produces an antibody reaction which must be overcome to allow acceptance of those foreign tissues. Many attempts to graft skin of close blood relatives have been made (Loeb, Padgett and others) without permanent success, although the viability of the graft is prolonged over the time of rejection of skin from less genetically related donors. An anergic person might accept and retain a grafted organ but such a person is in jeopardy because he has no immune mechanism for defense against infection. However, by the judicious use of drugs that reduce the allergic potential such as azathioprine, anti-lymphocyte serum, and others, Burke (Boston 1978) has been able to prolong the life of homografts needed for coverage of massive burns. During the time gained to allow for the regeneration of skin on the small donor sites available, the homografts protect from losses of fluid and protein and from bacterial invasion. When the donor sites are ready, more autografts can be harvested. Chinese surgeons, as well as Burke, have reported

survival of several patients with full thickness burns of over ninety percent of the body. Homografts and autografts are laid down in alternate strips or small pieces of autografts are inserted in holes made in much larger homografts. In their produced anergic state, Burke has kept his patients in an ultra sterile, nearly germ-free environment called the green house.

#### **Metabolism**

The need for general support of the burned patient was not appreciated from the standpoint of his metabolism, weight loss, and nutritional needs until this century. Francis D. Moore, after careful studies, found that the patient's response to stress from his burn injury was enormous. The abnormally high metabolic rate was and still is difficult to understand. The giving of blood and plasma, as recommended by Ravdin, Rhoads, and others, is inadequate to meet the deficiencies. Augmentation of the intake by supplementing the diet with excess calories and proteins, as recommended by Lund in the 1940's, by mouth was often impossible. Protein rich, high caloric mixtures pumped into the stomach or small bowel often caused diarrhea (Blocker 1950). Various supplements such as amino acids, polypeptides, emulsified fats, and concentrated glucose often produced febrile and other reactions and caused thrombosis of veins when these substances were given intravenously. Inserting the venous feeding catheter into a large vein (usually the superior vena cava) allowed free dilution of the injectant in a larger volume of blood and helped solve the thrombosis problem, but some skill was needed to insert the catheter tip to the appropriate position.

The intake of considerable amount of calories, protein, and fluid was made possible by this method, but not without some danger to immediate anatomical structures and there was the threat of contamination to the general blood stream. Patients can be converted from negative to positive caloric and protein balance, thereby maintaining body weight and bolstering their body defenses by these methods. Whenever possible, the enteric route for intake is preferred. Recent metabolic analyzers, by monitoring oxygen consumption, direct by means of a computer the nutritional needs of the patient. Improved survival rates, lowered mortality, and earlier rehabilitation can be attributed in part to such nutritional support.

### Scars and Contractures

Excessive collagen is often a late by-product of the healing burn wound. Hypertrophic scars, keloids, and contractures have been unwelcome sequellae to the healing process. Methods to prevent and treat these by-products have been effective in only recent decades. Fabricius (1607) reported and illustrated the satisfactory correction of severe dorsal contractures of the hand of a six-month-old child by incising the cicatrix and pulling the fingers back by traction into a more useable position of function. Little appears in the literature until the 1920's and 30's when Blair, Brown, Padgett, and others demonstrated good results for the correction of contracting, disfiguring and defunctionalizing scars by excision of the abnormal tissue and replacing them with good split skin grafts or sometimes with adjacent or distant pedicled grafts.

Early research as to the cause of hypertrophy and contracture was unrewarding. Blair (1923) advised pressure on scars to flatten them. Maintaining parts in a proper position of function was advocated by many in the past 50 years. Cronin (Houston) in 1961 made molded splints, particularly for the anterior neck, and reported very good results as did Larson (Galveston in 1971) who made use of plastic splints and pressure garments fitted early to the wound immediately after epithelialization. They found that hypertrophic scars could be partially prevented, made smaller, and more pliable if already present, but pressure had to be maintained for many months or even for a few years.

Corticosteroids injected directly into thickened scars and keloids early shrunk the hypertrophic mass of tissue, but the effects were localized and often uneven (Ketchum 1966). Furthermore, if large amounts of steroids were used, undesirable systemic side effects became evident. Physical therapy methods with emphasis on early passive and later active motion are quite effective for maintaining joints in positions of function during the edematous and hyperplastic stages, salvaging extremities which without such treatment would be permanently stiff. Surgical procedures for the later contractural phase consist mainly of the excision of scars and covering the defects with skin grafts and sometimes pedicled grafts. Z-plasty procedures greatly improve the function and appearance. Since scars do not grow as does the growing child, skin coverage may be necessary to

prevent contracture during the growing years.

### Complications

The number of complications that may occur to a burned patient early in the course of treatment are legion and may continue even after wound healing. A full discussion is not practical in this discourse but to mention a few: 1. shock, 2. Pulmonary edema and pneumonitis, 3. Cardiac failure, 4. Hepatitis and liver failure, 5. Renal failure, 6. Adrenal failure, 7. Cerebral edema, 8. Sepsis, infected wound by bacteria, yeast, or virus, septicemia, 9. Gastroduodenal ulceration (Curling's) with exanguination, 10. Phlebothrombosis, 11. Pulmonary embolism, 12. Tetanus, 13. Neuropathies, 14. Muscle ischemia (compartment syndromes and eschar strangulation of circulation), 17. Bowel ileus, 18. Severe anemia and myelophthisis, 19. Corneal scarring and blindness, 20. Ototoxicity with deafness, 21. Contractures, 22. Phychosis.

Paraphrasing Osler, who said, "Know you syphilis, and you know much of medicine", the same might be said of burns, Know you burns and you know much of surgery.

### Organization

The very best of care for the burned patient is obtained by team work with many different disciplines coordinating efforts in centers designed and devoted specifically to render care. Mortality has dropped and morbidity lessened remarkably by such efforts. The earliest burn hospital of record (Syme 1843) segregated burn care for other reasons than in the centers of today. It was not until about the middle of this century that facilities were developed specifically for burn care. The first center was founded by the Army Institute for Surgical Research at Ft. Sam Houston, San Antonio, Texas, the Brooke Army General Hospital. A great many of the burn experts in this country today received their initial stimulus and early training at this fine center. In the 1940's and '50's, under the auspices of the National Research Council and the N.I.H., annual conferences were held for those interested and the newest knowledge, thinking, delineation of the problems, planning of research, and the State of the Art were discussed freely.

### 1960's

The national Shriner's organization desired to extend its scope of care for children. Founded on the advice of this country's most knowledgeable and concerned physicians, three Shriner's Burn



Hospitals for Children were built in Galveston, Cincinnati, and Boston, where physicians in teaching centers were engaged in burn research, teaching and care. In 1968, the combined efforts of burn specialists (doctors, nurses, paramedical workers, and some administrators) founded an organization called the American Burn Association, which has welcomed all disciplines and workers interested in burn care and has done much to further excellence of care in every way.

### Conclusion

The fundamental aim of society should be to do everything possible to prevent these devastating injuries, but interest has not been as great as it should have been in regard to this most important aspect of the burn problem. Physicians and nurses, fireman, safety council workers and others, by means of lectures, demonstrations, writing and legislation, have carried the torch for prevention thru education of the public, especially in the schools. Efforts to prohibit sale of known inflammatory clothing and to fireproof dangerous fabrics have been inhibited by certain agencies of the government for various reasons. But, every means for prevention must continue on an increasing scale if the people are to be protected from these hellish experiences which are personally devastating, exorbitantly costly, and enormously wasteful of life and the enjoyment of living.

### BIBLIOGRAPHY

1. Artz, Curtis P. The Burn Injury—A Summary. *J. Trauma*, 6 (3):420, 1966.
2. Artz, Curtis P., and Moncrief, John A. The Treatment of Burns. W. B. Saunders Co., Philadelphia, PA, London, Toronto, 1969.
3. Celsus. *De Medicina*. English Translation by W. G. Spencer—Cambridge, Mass., Harvard University Press, London, Wm. Heinemann, LTD., 1935.
4. Chih-Chun, Y., et al. A Chinese Concept of Treatment of Extensive Third Degree Burns. *Plastic and Reconstructive Surgery*, 70:238, 1982.
5. Cockshott, W. P. The Book Shelf: The History of the Treatment of Burns. *Surg. Gynec., Obst.* 102(1):116, 1956.
6. Feller, Irving. International Bibliography on Burns. Braun, Brunfield Press. American Burn Research Corporation, 1969.
7. Forge, A. V. The History of the Classification of Burns (Diagnosis of Depth). *Brit. J. Plastic Surgery* 16(3):420, 1966.

8. Harkins, Henry N. The Treatment of Burns. Charles C. Thomas, Springfield, IL—Baltimore, 1942. (1320 References).
9. Hippocrates. *Genuine Works of Hippocrates*. Translated from Greek—Francis Adams, New York. William Wood and Company, 1886.
10. Janzekovic, Z. A New Concept in the Early Excision and Immediate Grafting of Burns. *J. Trauma* 10:1103, 1970.
11. Ketchum, L. D., et al. The Treatment of Hypertrophic Scar, Keloid and Scar Contracture by Triamcinolone Acetonide. *Plast. and Recon. Surgery*, 38:209, 1966.
12. Larson, D. L., et al. Techniques for Decreasing Scar Formation and Contractures in Burned Patient. *J. Trauma*, 11:807, 1971.
13. Lynch, J. B. and Lewis, Stephen R. Symposium on the Treatment of Burns. C. V. Mosby Co., St. Louis, Missouri 1973.
14. McDowell, Frank. *Source Book of Plastic Surgery*. Williams and Wilkins, Baltimore, MD., 1977.
15. Mettler, Cecelia. *A History of Medicine*. Blakston Co., Philadelphia, 1947.
16. Moncrief, John A. *Clinics in Plastic Surgery*. W. B. Saunders Co., Philadelphia-London-Toronto, 1974.
17. Moyer, Carl A. The Treatment of Severe Thermal Injury: Its Development and Accomplishments During the Past Century. Division I. *Western J. Surgery*, 62(1):39, 1954.
18. Moyer, Carl A. The Treatment of Severe Thermal Injury: Its Development and Accomplishments During the Past Century. Division II. *Western J. Surgery*, 62(2) 107, 1954.
19. Najarian, J. S. et al. An Experimental Study of the Grafting of a Suspension of Skin Particles. *Plastic and Recon. Surgery*, 20:342-491, 1957.
20. Padgett, Earl C. Skin Grafting from a Personal and Experimental Viewpoint. C. C. Thomas, Springfield, Ill. Baltimore, 1942.
21. Ravitch, Mark M. A Century of Surgery; The History of the American Surgical Association. J. B. Lippincott. Philadelphia-Toronto, 1981.
22. Robson, Martin C., and Krizek, Thomas J. Predicting Skin Graft Survival. *The Journal of Trauma*, 13 (3) : 213, 1973.
23. Shedd, Donald P. Historical Landmarks in the Treatment of Burns. *Surgery* 43(6):1024, 1958.
24. Simpson, D. C. and Wallace, A. B. Historical Landmarks in the Treatment of Burns. *J. Royal College of Surgeons (Edinburgh)*, 2(2):134, 1956.
25. Womach, Nathan A. On Burns. Charles C. Thomas, Published. Springfield, Ill., 1953.

### COMMENT ON BIBLIOGRAPHY

Many of the facts and names have been taken from previous historical writings on burns and therefore do not reflect direct referral to source materials nor do they show documentation in this text.



# Clinical Effectiveness of the Pneumatic Counter-Pressure Device in the Emergency Arena

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and Patrick N. Osam, M.D.\*\*\*

## Abstract

Shock by definition is a clinical condition in which there is an insufficient blood flow to provide adequate oxygenation at the cellular level. Therefore, the management of shock is based on improving cellular perfusion. This can be accomplished in several ways. In a traditional sense, fluids are administered intravenously either as balanced salt solutions (lactated Ringers' solution) or blood (type and cross-matched, type-specific, or O-neg.) depending upon the severity of the shock state. Other physicians have utilized colloids, plasma expanders or vasopressors alone or in combinations with intravenous fluids and blood depending upon the etiology of the shock state.

This article discusses the use of the Pneumatic Anti-Shock Garment (PASG), sometimes called the Military Anti-Shock Trousers (MAST) suit, and its role in the treatment of shock. A description of the apparatus and mechanism of action on a physiological basis are reviewed. While the PASG's greatest use is in hypovolemic shock, it can be used in other clinical situations such as fracture splinting.

Like other therapeutic techniques, there are indications and contra-indications for the use of the PASG. It is vitally important that those physicians and other allied personnel that use this device be well versed in its proper application and mechanics. Once applied, the PASG should never be cut off or suddenly deflated as to do so can result in sudden death. The proper techniques for using the PASG will therefore be reviewed with the aid of appropriate photographs. We encourage physicians who are faced with treating shock patients in the emergency setting, especially trauma victims, to become familiar with the use of the PASG and consider adding it to their armamentarium used in shock/trauma management.

## Introduction

Despite the fact that clinical experience over

the past decade using the pneumatic counter-pressure device in both the hospital emergency department and the pre-hospital setting has proven its efficacy as a life saving therapeutic modality,<sup>1</sup> many Arkansas hospital emergency departments and ambulance services have neglected to add this vital resuscitation adjunct to their shock/trauma armamentarium.

Though Crile first described the efficacy of pneumatic counter-pressure in the successful treatment of hypovolemic shock in 1903,<sup>2</sup> it has only been recently that such devices have gained widespread recognition by the medical community. Attention to the efficacy of the Military Antishock Trousers (MAST) or Pneumatic Antishock Garment (PASG) was prompted by the successful field resuscitation of Vietnam War casualties using similar devices for the treatment of hemorrhagic shock secondary to lower extremity and abdominal trauma.<sup>3</sup> Since the Vietnam era numerous studies have documented the successful use of the MAST garment in the civilian emergency arena for the treatment of hypovolemic shock secondary to lower extremity, pelvic and abdominal bleeding.<sup>4-7</sup>

## Description, Mechanism of Action, Indications and Contraindication of The MAST Garment

The PASG which has gained the most widespread clinical usage is the nylon covered three vinyl chambered MAST set marketed by David Clark, Inc., Worchester, Massachusetts. It is designed to have three external compression chambers; one for each leg and one for the abdomen. Indications for the usage of the antishock trousers are: (1) any patient with a systolic blood pressure of 80mm Hg or below, or (2) a blood pressure of 100mm Hg or below in any patient who presents with clinical symptoms associated with a shock-like state,<sup>8</sup> i.e., pallor, diaphoresis, tachycardia, or altered mentation. Other indications for the use of the MAST garment include: (3) splinting and hemorrhage control from pelvic fractures, (4) tamponading intra-abdominal bleeding, (5) stabilizing long bone fractures of the lower extremities and (6) tamponading soft tissue hemorrhage at accessible sites. Life-threatening hemorrhage

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from leaking abdominal aortic aneurysms or from ruptured ectopic pregnancies have been successfully controlled prior to surgical intervention using the MAST garment. Because of the hemodynamic mechanisms which are set into play in acute blood loss, many clinicians have noted the increased difficulty or inability to initiate a peripheral intravenous line due to venous collapse. Quite frequently a patient with hypovolemic shock can be placed in the antishock trousers and following inflation the collapsed peripheral veins refill allowing for the insertion of large bore peripheral IVs so that blood and fluid resuscitation may be initiated. Research continues to indicate that the PASG may be a valuable clinical adjunct in increasing the effectiveness of external cardiopulmonary resuscitation.<sup>9-11</sup> Other uses for the MAST garment remain controversial and although there is no current clinical evidence yet available, it would seem to make sense that the relative hypovolemia in cardiac tamponade and tension pneumothorax might initially be managed by an external counter-pressure device.<sup>12</sup> The only absolute contraindication to the application of the MAST garment is pulmonary edema. Even the pregnant patient can be safely placed in the garment provided that the abdominal compartment is not inflated. Concern has been expressed that hypotensive patients with head injuries should not be placed in the MAST garment. Recognizing that a head injury which results in hypotension represents a preterminal event, it is far safer to assume that the hypotension is secondary to unrecognized bleeding which may be amenable to MAST therapy.

The major mechanism of action of MAST inflation has been attributed to three factors:<sup>13</sup> (1) compression of venous blood from the lower half of the body cephalad to the vital circulation of the heart, brain, and lungs (autotransfusion), (2) an increase in peripheral resistance (afterload) of the lower part of the body causing blood flow to be redirected to the organs above the diaphragm, and (3) tamponade of intra-abdominal bleeding due to decreasing vascular transmural pressure.<sup>14,15</sup> Of the mechanisms listed above perhaps the one most frequently attributed for the beneficial effect of PASG inflation is autotransfusion. Initial reports of autotransfusion volumes of 750ml to 2,000ml following inflation of the antishock garment now appear to have been

grossly overestimated. Recent studies indicate that approximately 5% of the total blood volume or roughly 250ml is the maximum blood volume which may be autotransfused by using the MAST garment.

#### **Technique For Using The Antishock Garment**

The following numbered photographs are a pictorial account of the process of MAST inflation and deflation. (1) Slide the opened trousers beneath the raised feet of the patient, (2) to the buttocks, (3) Elevate the patient's buttocks and slide the trousers up to the level of the umbilicus, (4) Enclose the left leg and fasten the Velcro closure, (5) Enclose the right leg and fasten the Velcro closure, (6) Enclose the abdomen and fasten the Velcro closure, (7) The hose from the foot pump is attached to the three compartments and the compartmental stopcocks are opened, (8) Inflate the leg compartments first, then the abdominal compartment last using the foot pump, (9) As inflation proceeds check the patient's blood pressure, (10) Velcro straps, pop-off valves or gauges prevent overinflation, (11) Close the stopcocks. The fully inflated MAST garment may be left in place for several hours if necessary.

Deflation of the trousers has been one of its major detriments because many physicians, emergency department nurses, and operating room nurses have been unaware of the disastrous consequences which may occur if the garment is suddenly deflated. (12) The deflation process should not be undertaken unless intravenous lines have been established and the hypotension has been corrected or operative intervention has begun. (13) Deflation begins by opening the abdominal stopcock and gradually deflating this compartment while frequently checking the patient's blood pressure. (14) Stop deflation if the systolic blood pressure drops 5mm Hg. (15) If there is a drop in the blood pressure of 5mm Hg or greater, deflation of the garment should be immediately discontinued and reinflation of the antishock garment initiated along with an increase in the rate of administration of a balanced salt (lactated ringers or normal saline) IV fluid. (16) Deflation of the garment may proceed from the abdominal compartment to the leg compartments provided that careful blood pressure monitoring does not reveal a drop of 5mm Hg in the patient's systolic pressure. The patient may be transferred to a higher level facility or taken to

# Use of Pneumatic Counter-Pressure Device

## *Application*



**1** Slide open trousers beneath raised feet...



**2** ... to the buttocks.



**3** Elevate buttocks and bring trousers up to rib cage.



**4** Enclose left leg and close Velcro.



**5** Enclose right leg and close Velcro.



**6** Enclose abdomen and close Velcro.



**7** Open stopcocks.



**8** Inflate with foot pump.



**9** Check blood pressure. Stop inflation at 100 mm Hg.





**10** Velcro straps, pop-off valves, or gauges prevent overinflation.



**11** Close stopcocks



**12** The device can be left in place fully inflated for two hours if necessary. If a longer period of inflation is necessary, alterations and additions should be considered.

## Gradual Deflation

*Warning: Rapid deflation can return Patient to Shock*



**13** Intravenous lines are established and operating room is readied.



**14** Open stopcock on abdominal section.



**15** Stop deflation if blood pressure drops 5 mm Hg.



**16** Administer intravenous fluid to restore blood pressure.



**17** Deflation can continue while blood pressure is closely monitored. Patient can be taken to the operating room with the device inflated, if necessary.

the operating room with the PASG in place if necessary.

### Conclusion

The MAST garment is a safe and efficacious medical device which is primarily of use in the treatment of hypovolemic shock. Physicians, Emergency Medical Technicians, Emergency Department and Operating Room nurses should be thoroughly familiar with the proper use of the antishock trousers.

The authors attribute several of our former patients being alive today to the use of the MAST garment. Conversely and regrettably we also are aware of certain trauma victims who had otherwise survivable injuries whose lives might have been saved had the MAST garment been utilized.

Although we acknowledge that usage of the PASG is temporizing, we also recognize that in the trauma arena minutes can literally mean the difference between life or death. We conclude that all hospital emergency departments and all advanced life support ambulances should be equipped with the MAST device.

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### REFERENCES

1. Pelligra, R., and Sandberg, E. C.: Control of Intractable Abdominal Bleeding by External Counterpressure. *JAMA* 241:708-713, 1979.
2. Grile, J. W.: Blood Pressure in Surgery: Experimental and Clinical Research. Philadelphia, J. B. Lippincott Co., 1903, pp 288-291.
3. Cutler, B. S., and Daggett, W.: Application of the G-Suit to the Control of Hemorrhage in Massive Trauma. *Annals of Surgery* 173:511-514, 1971.
4. Wayne, M. A.: Clinical Evaluation of the Antishock Trouser: Retrospective Analysis of Five Years of Experiences. *Annals of Emergency Medicine* 12:342-347, 1983.
5. McSwain, N. E.: Pneumatic Trousers and the Management of Shock. *J. Trauma* 17:719-724, 1977.
6. Civetta, J. M., Nussenfeld, S. R., and Row, T. R., et al: Prehospital Use of the Military Antishock Trouser. *JACEP*. 5:581-587, 1976.
7. Kaplan, B. C., Civetta, J. M., and Nagel, E. L., et al: Military Antishock Trousers in Civilian Prehospital Emergency Care. *Journal of Trauma* 13:843-848, 1973.
8. Advanced Trauma Life Support Course Instructor Manual, American College of Surgeons, Committee on Trauma, 1981: pp 167.
9. American Heart Association: Medical Antishock Garments, Standards and Guidelines for CPR and ECC. *J.A.M.A.* 244:482, 1980.
10. Lee, H. R., Wilder, R. J., and Blank, W. F.: MAST Augmentation of External Cardiac Compression: Role of Changing Intrapleural Pressures. *Annals of Emergency Medicine* 10:560-565, 1981.
11. Lilja, G. P., Long, R. S., and Ruiz, E.: Augmentation of Systolic Blood Pressure During External Cardiac Compression by Use of the MAST Suit. *Annals of Emergency Medicine* 10:182-184, 1981.
12. Davis, J. W., McKone, T. K., and Cram, A. E.: Hemodynamic Effects of Military Antishock Trousers in Experimental Cardiac Tamponade. *Annals of Emergency Medicine* 10:185-186, 1981.
13. Lee, H. R., Blank, W. F., and Wilder, R. J., et al: Venous Return in Hemorrhagic Shock After Application of Military Antishock Trousers. *American Journal of Emergency Medicine* 1:7-11, 1983.
14. Gardner W. J., and Storer, J. The Use of the G-Suit in Control of Intra-Abdominal Bleeding. *Surg. Gynecol. Obstet.* 123:792-798, 1966.
15. Ludwig, R. W., and Wagensteen, S. L. Aortic Bleeding and the Effect of External Counterpressure. *Surg. Gynecol. Obstet.* 128:252-258, 1969.
16. Bivens, H. G., Knopp, R., and Tiernan, C., et al: Blood Volume Displacement with Inflation of Antishock Trousers. *Annals of Emergency Medicine* 11:409-412, 1982.





# Subtle Enablers

Joe L. Martindale, M.D.\*

I have become keenly interested of late in the efforts of getting the addicted professional, especially physicians, into treatment. I will attempt to address my thesis to these physicians. I have, at this writing, formed some very definite opinions concerning this subject. I must at this time make it very clear to the reader that these are opinions of one physician who is a recovering alcoholic and drug abuser. I was treated in a much more primitive manner than most other physicians that I know and read about; for this I am grateful. My intervention and confrontation was accomplished by a caring and loving family who acquired intervention and confrontation skills through Alanon. The method was effective for me and my sobriety subsequently began in a halfway house where I lived for 28 days with other recovering alcoholics who were not impressed with my status and profession. There I learned that I was not an addicted physician, but an addicted person who happened by reason of motivation and education to be a physician. I believe that these facts qualify me to elaborate on the subject.

I am in contact with many physicians who are recovering from alcoholism, drug addiction, or both. In talking with them, I am impressed with their attitudes relating to the places where their recovery began. They seem to feel that recovering initially in an exclusive, well-known treatment center far away from their hometowns gives them more status as a recovering person. I do not personally feel that there is any status structure in recovery whether or not one is a derelict skid row bum or a famous physician who is on skid row. There is no relevance here at all. We are the same wherever we are, regardless of our social or professional standing. We all have the same problems and suffer from the same disease. Is the treatment for heart disease any different for an indigent patient than for a physician? The answer is an unequivocal no. I find from reading and research that treatment techniques are universally very similar.

Let me clear up one pertinent point at this time. I believe that there is a need for paid treatment centers. In fact, I am a consultant for such a facility as well as maintaining an active private practice. I advocate these centers as well as half-

way houses. The differences and effectiveness of these two types of facilities are *not* in question here. I am attempting to convey another message altogether.

At this point I will get to the basic subject matter. We as physicians are addicted persons who happen to be physicians! First of all, why do we become addicted in the first place? What defect in our personalities forces us to seek relief by ingesting chemicals into our systems? I think that basically we are dependent people who become physicians to feel independent and God-like. This creates a large chasm in relating to people and persons and not patients. We all seem to relate to patients very well until something occurs that is beyond our medical control and we have to become people. We do not make that transition very well; the pain becomes too great and the conflict so devastating that we must relieve our pain in some way. We reach for a mood-altering chemical, usually alcohol. This is the beginning of the merry-go-round for us, our families, colleagues, friends, and social acquaintances. We suffer more conflicts which we cannot deal with emotionally and our minds remember the ease and comfort that comes from taking a few drinks. Thus the cycle of pain-medication-relief and the process is repeated over and over again until we become addicted.

We develop behavior changes, withdraw from people, and become obnoxious. About here our colleagues and families begin to protect us from ourselves, thus becoming enablers, and everyone denies that a problem exists. We continue to medicate ourselves until we reach a point where confrontation and intervention are necessary. This is usually accomplished by the State Medical Board who either suspend or revoke our licenses.

We now have an addicted physician who is in serious trouble with peers, hospital and patients, and the Ethics Board of the State Medical Society. What now? We are told that if we go into treatment and take the "cure" everything can be reinstated. We are given the choice of several excellent treatment centers for physicians, usually far away from home. These are special places and only for physicians—is this continued enabling? I think so. We finish our treatment in one of these special places and are secretly filtered back

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to our state being very careful not to reveal that we have a problem—more enabling. If we are fortunate enough to reenter our practice in our community we may join a special group called International Doctors in A.A., another special group—and more enabling, I believe. If we join this group we can meet in another area of the state once a month, maintain our sobriety, and nobody else has to know. I doubt that one meeting with “special” people one time a month and telephone contact with a contact person selected by the treatment center is enough. I do not know of any special groups in Alcoholics Anonymous. We are people who would not normally associate but we get well because of our common problem and

common solution. I strongly believe that our quality of sobriety depends upon our going back into our own communities and becoming involved in our local groups. This method has been most rewarding and enjoyable to me and I am grateful that I was not given special treatment during my recovery simply because I am a physician.

In conclusion, I believe that special modalities for treatment of the impaired physician and special aftercare treatment is enabling us not to achieve the quality of sobriety that seems so commonplace with the recovering bum, laborer, salesperson, and other so called common people. I am a person who is a physician and I feel that I should be allowed to recover as a person.



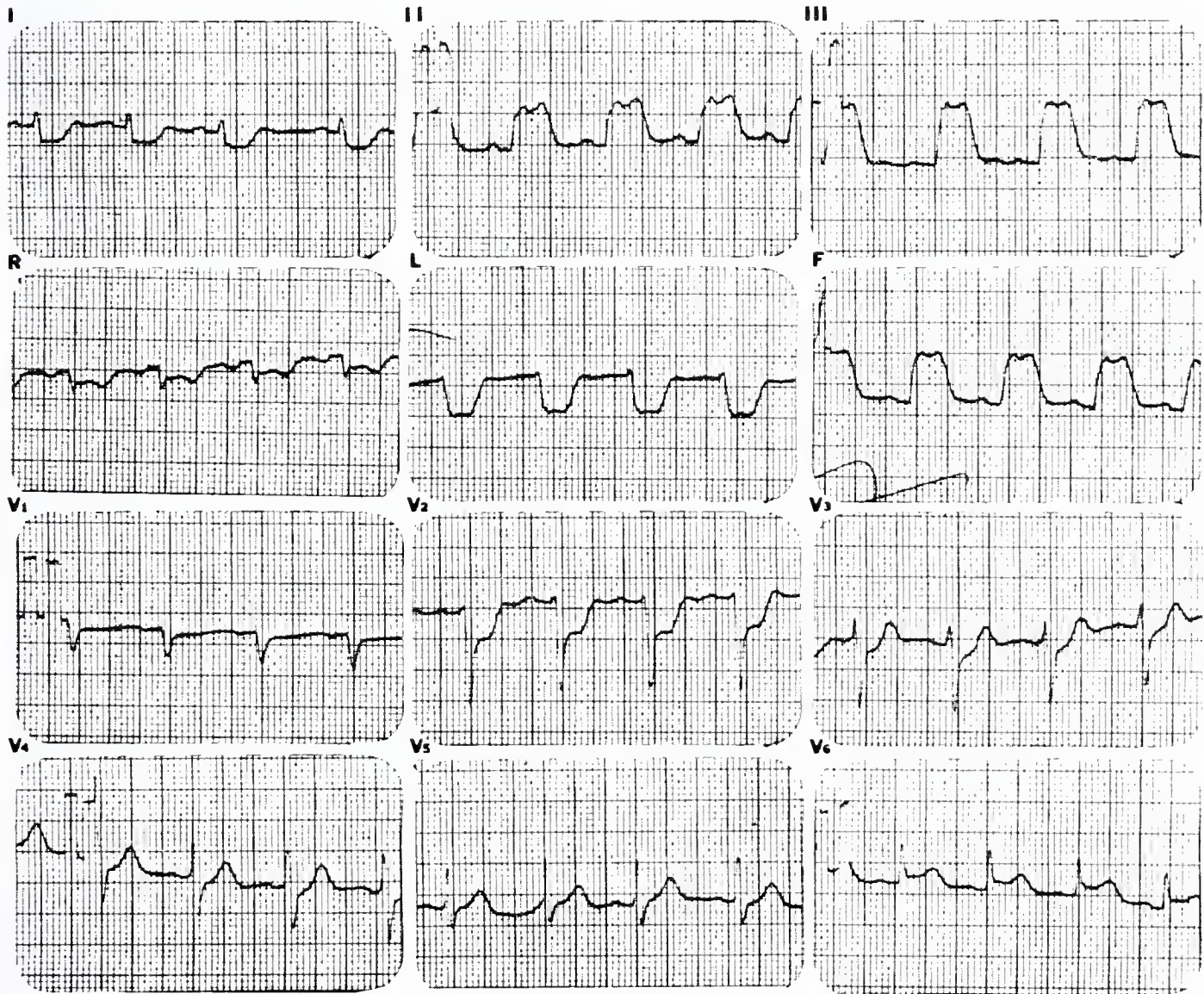




The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 536)

**HISTORY:** J. H. is a 52-year-old man who recently experienced a bout of "indigestion" characterized by epigastric discomfort and nausea following a heavy meal. When examined, he was noted to have an S<sub>4</sub> gallop but otherwise had a normal physical examination. The accompanying electrocardiogram was obtained as part of his evaluation. What do you think with respect to such considerations as acute bundle branch block, variant angina, remote transmural infarction, and acute infarction?



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# Office Orthopaedics

## "Making The Screen Work"

Charles C. Schock, M.D.\*

With visions of the Super Bowl still dancing in the heads of at least some of us, we recall those situations in which diversionary tactics were called for—in some instances, "THE SCREEN". To make it work required a combination of proper timing, a knowledge of the expectations of the adversary, proper coordination and positioning of team members with different functions, good execution, and of course, a little bit of luck.

Likewise in school screening for scoliosis a number of factors need to be right in order to achieve the benefits of such a program and to avoid pitfalls. We cannot rightfully lay claim to being aided by "a little bit of luck" in the practice of medicine (although I suspect that it is frequently more important than we think) but the other factors include the most efficient deployment of a team of individuals with different training and functions, and knowledge of the lay public's preconceptions and prejudices regarding the screening and the treatment of spinal deformity, and good timing and execution all play a vital role in the successful carrying out of a school screening program.

In earlier days, the emphasis in the treatment of scoliosis was more centered on the successful treatment of the severe case. Prior to the introduction of Harrington instrumentation and spinal fusion in the 1960's, no reliable method was available for treating severe cases and hence a certain degree of nihilism developed which resulted in neglected cases and severe disability requiring heroic treatment. More effective, nonoperative treatment likewise became more widespread in the sixties.

As treatment for both severe and moderate cases became more generally successful with improved techniques, interest shifted toward attempting to treat scoliosis at an earlier stage, both operatively and nonoperatively, in order to obtain better and more predictable results. The 1970's witnessed the initiation of a number of school screening programs in various scoliosis treatment centers, many of which have gone on to document a decreasing necessity for the use of spinal fusion and a greater success in the treatment of moderate curves with nonoperative means because of a selection of patients with less severe curves which lie in the optimal range of nonoperative treatment.<sup>1,2</sup>

A knowledge of the natural history of scoliosis and the effects of treatment as it alters that natural history is essential on the part of treating physicians, referring physicians, and, in a general sense, by the lay public. Recently the natural history of scoliosis has been more completely documented<sup>3</sup> and the effects of treatment and detailed follow-up have also been more precisely defined. It seems well established that mild scoliosis of only a few degrees is present in a significant percentage of all early adolescent children, perhaps approaching a figure of 10%. Scoliosis that progresses in adolescence to a degree that requires nonoperative treatment with either a brace or electric surface stimulation is somewhere in the range of less than one in 100 children and that which will progress to a degree requiring surgical intervention is another order of magnitude removed at somewhere less than one in 1,000 children. While the specific numbers attached to these trends may vary slightly with the particular series being quoted, the overall relationship remains. It is

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clear that to have scoliosis of a few degrees as an early adolescent does not necessarily commit one toward brace or surgical treatment. Rather, the number of children progressing to these more advanced stages is very small.

As a participant in the planning for a school screening program in Wayne County, Michigan, in the mid 1970's, I was particularly struck with the degree of mental anguish engendered by a lack of appreciation of the natural history of scoliosis both on the part of the lay public and on the part of medical practitioners. Following screening at a typical school, the principal's office would be deluged with calls from concerned parents questioning whether their child had "IT", as though the presence of a few degrees of scoliosis were tantamount to the diagnosing of some ostracizing condition such as Biblical leprosy. Emphasis to the parents of the extreme uncommonness of progression of minimal scoliosis would have allayed these fears. Further reassurance is obtained with a knowledge that in those few cases that do progress, early treatment can in all likelihood prevent further worsening. When our screening program was modified to include a large dose of reassurance regarding these factors, things seemed to go much more smoothly.

Some medical practitioners, on the other hand, tended to underplay a referral for scoliosis of only a few degrees. The concept that scoliosis treatment was something rather drastic reserved only for patients with severe deformity appeared to have been perpetuated. Here, it was necessary to emphasize that while the vast majority of minimal scoliosis cases did not progress, there was a small percentage that would show some progression. The earliest possible recognition of this fact would lead to earlier and more successful treatment.

A workable formulation in Wayne County was arrived at only after a few years of trial and error. A two tiered approach was used with great emphasis placed on education regarding natural history and treatment. In order to recruit manpower (or "person power") to screen all children in the most productive age range (between twelve and fourteen) volunteers, teachers and nurses were given a training program in the recognition of the clinical appearance of spinal deformity, namely waistline asymmetry, shoulder asymmetry, and rib or lumbar paravertebral hump. Initial screening was then carried out together with the information that a student's selection in this screening

process did not necessarily mean that there was a serious problem. A professional would make a definitive statement later.

Secondary screening is then carried out by a specially trained nurse or medical practitioner to verify the presence of significant deformity. Lately a method has been developed wherein rib rotation can be easily quantitated into an angular value which has been correlated with the presence or absence of a significant curve.<sup>4</sup> Those patients with greater than a five degree inclination of rib hump are then referred to their own medical practitioner for follow-up and possible referral to a treatment center if indicated. It was found to be important in the Wayne County experience that rescreening was available on a yearly basis so that all mild curves did not have to be referred to a medical practitioner and thus avoided swamping the system. These minimal curves could be checked again in a year to select out those few students who had undergone progression. It is important to recognize that successful school screening is not a one time project but rather needs to be an ongoing endeavor with a clear necessity for good organization and record keeping.

Recent concern has rightfully been expressed for the cost effectiveness of screening programs. Since primary screening is largely on a volunteer basis, the major source of cost is in record keeping and in reimbursing the time of paid professionals who do the secondary screening and coordinate the record keeping. Costs have been shown to be only a few cents per patient. During a study by Nachemson<sup>5</sup> and others regarding the overall economic effectiveness of the brace treatment of scoliosis and even the surgical treatment of scoliosis versus the long term disability of untreated scoliosis, one can only conclude that very minimal costs associated with scoliosis screening will do much toward the elimination of disability associated with severe scoliosis which can be achieved by early treatment.

To therefore make our "screen" work we need to invest a nominal amount of resources in the organization and training of teams of workers which can function on a yearly basis; we need proper timing regarding the most productive age for screening; we need to have proper execution in terms of a thorough training in the physical hallmarks of spinal deformity which are associated with the need for referral; and finally, we need

to have a thorough understanding of the psychology of the adversary (which is ignorance). As more comprehensive school screening for scoliosis spreads, I am optimistic that the positive effects of screening observed in the early programs can be made available to all our citizens.

#### BIBLIOGRAPHY

1. Torell, G., Nordwall, A., and Nachemson, A.: The Changing Pattern of Scoliosis Treatment Due to Effective Screening. *The Journal of Bone and Joint Surgery*, 63-A:337-341, March 1981.
2. Lonstein, J., Bjorklund, S., Wanning, M., and Nelson, R.: Voluntary School Screening for Scoliosis in Minnesota. *The Journal of Bone and Joint Surgery*, 64A:481-487, April 1982.
3. Kane, W.: Scoliosis Prevalence: A Call for a Statement of Terms. *Clinical Orthopaedics and Related Research*, 126:43-46, July-August 1977.
4. Bunnell, W.: Presentation to the Scoliosis Research Society. New Orleans, Louisiana, 1983.
5. Nachemson, A.: Presentation to the Scoliosis Research Society. Hong Kong, 1978.

#### ANSWER—Electrocardiogram of the Month

**DISCUSSION:** The electrocardiogram shows that the patient is in a sinus mechanism at a rate of 100 per minute. The QRS duration is 0.08 seconds. Marked ST elevation is noted in II, III, and AVF while ST depression exists in I, AVL, and V<sub>1</sub>-V<sub>3</sub>. No Q-waves are present. These changes are compatible with acute inferior infarction. Initial confusion could exist with respect to right or left bundle branch block because of the magnitude of the ST elevation and depression in the limb leads but the confusion disperses when the unipolar leads are inspected. Electrocardiographic changes of variant angina closely resemble those of acute infarction and differentiation of infarction and variant angina can not be made with one electrocardiogram. Of course, Q-waves are traditionally associated with transmural infarctions but may not appear in the early phases of infarction. The changes as noted are those of acute infarction, not old or remote infarction.







## **Overview of the Drinking Water Program in Arkansas**

**Bruno Kirsch, Jr., P.E.\***

The challenge of protecting the public from health hazards in potable water is not new. The journals are full of articles on epidemiological investigations into disease outbreaks which were caused by contaminated drinking water. Even some of the fundamental principles of epidemiology can be attributed to Dr. John Snow's investigation on the cholera epidemic caused by contaminated drinking water in London in the 1850's. Further his recommendations led to the sanitary engineering principle of locating water intakes above sources of contamination. Through the years advances in medical science coupled with sound sanitary engineering design principles have led to a dramatic reduction in water borne disease outbreaks and provided our nation with the leadership in water treatment technology. However in the late 1960's surveys by the Center for Disease Control and later the newly formed Environmental Protection Agency indicated that public confidence in the safety of drinking water supplies was waning. In the ten-year period 1961-1970, there were 130 outbreaks resulting in 46,374 illnesses and 20 deaths. On the average, the statistics represented one water borne outbreak per month affecting something over 350 people per incidence.

Due to growing public concern, congressional interest in achieving better regulatory control of public water supplies became increasingly evident. Congressional oversight hearings were held on bills relating to protection of safe community drinking water supplies and on December 16, 1974, then President Ford signed the National Safe Drinking Water Act, Public Law 93-523. The purpose of the legislation is to assure that water supply systems serving the public meet minimum national standards for the protection of public health.

The Act authorized the Environmental Protection Agency to establish Federal Standards to control the levels of all harmful contaminants in the drinking water supplied by all public water systems. The major provisions of the Act are:

1. The establishment of primary regulations for the protection of the public health;
2. The establishment of secondary regulations that are related to taste, odor and appearance of drinking water.
3. The establishment of regulations to protect underground drinking water sources by the control of subsurface injection.
4. The initiation of research on health, economic and technological problems related to drinking water supplies.
5. The initiation of a survey of rural water supplies; and
6. The allocation of funds to states in improving their drinking water programs through technical assistance, training of personnel and grant support.

In 1975, the Environmental Protection Agency proposed the national regulations and on June 24, 1977 the regulations became effective. The National Interim regulations established the definition of a public water system, set national standards called maximum contaminant levels and monitoring frequencies for 10 inorganic chemicals, six (6) organic chemicals, the coliform bacteria, finished water turbidity and alpha and beta radioactivity in drinking water. Further the Act and the regulations required public notification by the water supplier to its customers of violation of any standard or monitoring requirement. On July 11, 1977 Arkansas through the Division of Engineering, Arkansas Department of Health became the sixth state to accept primacy for the administration and enforcement of the Act and regulations for the Environmental Protection Agency.

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In order to obtain primacy each State's drinking water program received an intensive review and approval by the EPA. However most State's program evolution almost predate any federal involvement. Historically, Arkansas' drinking water program can be traced to Act 210 of 1917 which authorized the Bureau of Engineering within the Arkansas Department of Health and M. Z. Bair the first state sanitary engineer reported for duty on July 2, 1919. At that time Mr. Bair reported on the condition of 58 public water systems to the State Health Officer. Through the capable leadership of five different state sanitary engineers, noteworthy program milestones included:

- In 1931 the first annual Arkansas Waterworks Conference to provide training to water system operators was held at the College of Engineering on the University of Arkansas Campus.
- In 1937 the first water chemistry laboratory was established within the Arkansas Department of Health.
- In 1939 the first District Waterworks Meetings were held throughout the State.
- In 1941 voluntary water operator licensing program was inaugurated.
- In 1951 the fluoridation program was established within the Department of Health.
- In 1952 the highway sign program was developed and utilities receiving a superior rating were issued signs stating that the water supplies are approved by the Arkansas Department of Health.
- In 1957 the State Legislature passed Act 333 which required mandatory licensing of water supply operators.
- In 1977 the Division of Engineering accepted primacy of the Safe Drinking Water Act.

As can be seen our State developed a very strong drinking water program long before the establishment of the EPA, circa 1969; however, in order to obtain primacy, EPA reviewed the Division of Engineering to ensure our program had the following elements:

- 1) the state adopts drinking water regulations to no less stringent than the National Interim Primary Regulations;
- 2) the state has adopted and is implementing

adequate procedures for enforcement of the Regulations, including monitoring and inspections;

- 3) the state keeps records and reports to EPA as may be requested;
- 4) the state has adopted and can implement an adequate plan for provision of safe drinking water under emergency conditions; and
- 5) the state requests that it be delegated this authority.

As noted, our State was ready and became one of the first states in the nation to obtain primacy.

From 58 public water systems in 1919 there are now over 2300 public water systems that must meet the requirements of the Act and our staff has grown from one professional engineer in 1919 to eleven professional engineers and seven technicians. The Division of Engineering, Arkansas Department of Health, is responsible to ensure that all systems meet the standards and monitoring requirements of the Act. The systems are graded for compliance with the Act either monthly or quarterly depending upon the type of system. Any violation of a standard and/or monitoring frequency is reported by letter to the water system with the requirement to notify its customers of any violation.

Currently the State's overall compliance with the Act is well over ninety percent and our program maintains its strong status throughout the nation. The Division is proud of its heritage of preserving safe drinking water to our citizens and awaits new amendments to the Act which will probably establish up to thirty new standards for various elements and compounds in drinking water.

#### REFERENCES

1. Environmental Protection Agency, Office of Water Supply, National Interim Primary Drinking Water Regulations, EPA-570/9-76-003, 1976.
2. Hernandez, J. W. and Barkley, W. A., *The National Safe Drinking Water Act, Public Law 93-523*, Training Seminar Manual, Department of Civil Engineering, New Mexico State University, 1976.
3. Princeton University, The Center for Energy and Environmental Studies, *Nor Any Drop to Drink: Public Policies Toward Chemical Contamination of Drinking Water*, Policy Booklet, 1981.
4. Sanders, R. N., "History of Engineering Bureau, Arkansas Department of Health", Southwest and Texas Waterworks Journal, American Waterworks Association, 1975.





# MEDICAL GRAND ROUNDS

## Current Therapy of Cerebrovascular Disease

Robert J. Wilkerson, M.D.,\* Pham H. Liem, M.D.,\*\*  
and William J. Carter, M.D.\*\*\*

### Introduction

Cerebrovascular disease is a medical problem which will confront almost every physician at some point. This is because stroke is such a pervasive problem, especially in the elderly. The annual initial stroke incidence rate per 100,000 more than doubles for each decade from 35 years of age to 85 years of age.<sup>1</sup> (See table 1)

The purpose of this review is to provide answers to some of the questions that arise concerning the management of impending stroke or completed stroke. To accomplish this we will review preventive measures to decrease the risk of stroke including the reduction of risk factors, the use of antiplatelet drugs, anticoagulant therapy, and surgical intervention. Finally we will cover treatment of the acute stroke and rehabilitation of the stroke patient.

### Transient Ischemia

A transient ischemic attack (TIA) is defined as a transient loss of neurologic function due to deficient blood flow that clears within 24 hours. Most attacks last 10 to 15 minutes. A reversible ischemic neurologic deficit (RIND) is like a TIA except the episodes last longer than 24 hours. The significance of these episodes is that they tend to be premonitory symptoms of a stroke. Approximately 50% of cerebral infarctions are preceded by TIAs. Within 5 years of onset of TIAs, approximately 25-30% of patients will have suffered a stroke with permanent residual.

TIAs can be grouped into two types, carotid and vertebrobasilar. The predominant symptoms of carotid TIAs include transient hemiparesis often accompanied by hemianesthesia, transient disturbance of speech, and transient ipsilateral monocular blindness (amaurosis fugax). Vertebrobasilar TIA symptoms include vertigo, visual field disturbances, "drop attacks" and dysarthria.

### Risk Factors

A number of risk factors have been recognized

that increase the liability to stroke. These factors should be corrected if possible.

Analysis of the Framingham Study revealed that hypertension is the most powerful contributor to stroke incidence.<sup>2</sup> Infarctions occurred in hypertensive patients seven times more often than in normotensive subjects, and the risk was proportional to the blood pressure throughout its range.

Mortality from stroke in patients with diabetes is twice as great as in the non-diabetic population.<sup>3</sup> The Framingham Study found a correlation between the degree of hyperglycemia and the risk of stroke.<sup>4</sup> Investigations have identified hyperlipidemia as an important risk factor in atherosclerosis, but the role of hyperlipidemia alone has not been proven to be as strong a risk factor in strokes.<sup>5</sup>

Atherosclerotic heart disease increases the liability to both TIAs and stroke. Examples include cardiogenic emboli and resulting hypotension from an arrhythmia or myocardial infarction. Mitral valve prolapse has recently been associated with TIAs and stroke, presumably secondary to thrombogenesis on a myxomatous valve.<sup>6</sup>

Atherosclerotic cerebrovascular disease of the intracranial and extracranial arteries increase the risk for TIAs and stroke in several ways, including embolism from an ulcerated plaque, thrombotic occlusion of a major vessel, reduced perfusion beyond a stenotic lesion during periods of hypotension, and subclavian steal and intracranial steal syndromes.<sup>7</sup>

Although the Framingham Study reported a twofold increase in risk of thrombotic stroke in subjects with moderately elevated hemoglobin (men over 15 grams, women over 14 grams),<sup>8</sup> most clinicians reserve treatment only in clear polycythemia.

Studies indicate that cigarette smoking increases the risk of stroke, although much less than in atherosclerotic heart disease.<sup>9</sup> Other characteristics considered as risk factors but with less documentation include obesity, emotional stress, hyperuricemia and gout.

Although the incidence of stroke markedly increases with age, there has been a well-recognized

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steady decline in the incidence of stroke in the United States over the past several decades.<sup>10</sup> Probable reasons for this decline include early diagnosis and improved treatment of hypertension, diabetes and hyperlipidemia.

### Antiplatelet Drugs

The three main antiplatelet drugs which have been extensively evaluated in cerebrovascular disease are dipyrimadole (Persantine), sulfinpyrazone (Anturane), and aspirin.

In 1969 dipyrimadole was evaluated by Acheson et. al.<sup>11</sup> in 169 patients with either TIA or completed stroke. There was no reduction in the frequency of TIAs, stroke, or death. A recent study comparing dipyrimadole-aspirin combination with aspirin alone revealed no additional benefit from the dipyrimadole addition.<sup>12</sup> There is also an ongoing American-Canadian cooperative trial to be published in 1984 which is evaluating an aspirin-dipyrimadole combination.

Sulfinpyrazone has been evaluated in two main studies. In 1973, Evans<sup>13</sup> compared sulfinpyrazone vs placebo therapy in 20 patients with amaurosis fugax and TIA. There was an improvement in the eye symptoms but no comment regarding stroke or death was made. In 1978, a large Canadian Cooperative Study found that sulfinpyrazone did not cause a statistically significant reduction in TIAs, stroke or death.<sup>14</sup>

The most definitive information on the role of aspirin has been provided by three large cooperative studies. The first study published in 1977 was the Aspirin in Transient Ischemic Attack Study<sup>15</sup> (American Trial). This was a double blind, multicenter trial in which aspirin at a dose of 650mg twice a day was compared to placebo in patients with carotid system TIAs. Of the 303 patients included, 125 underwent carotid vascular surgery then randomization to aspirin therapy, while the remaining 178 were randomized to aspirin therapy at the onset. After a 6-month follow-up, a statistically significant benefit was demonstrated in the aspirin group when the end points of continued TIAs, stroke and death were combined. Restriction of end points to death or stroke yielded no significant difference between the aspirin and placebo groups. Aspirin was found to be most effective in patients with multiple TIAs and in persons with carotid artery lesions appropriate to their symptoms.

The Canadian Cooperative Study published in 1978 included 585 patients with cerebral or retinal

ischemic TIAs followed in a double blind, multicenter trial for an average of 26 months.<sup>14</sup> The patients were randomized into 4 treatment groups: aspirin 325mg four times daily; sulfinpyrazone 200mg four times daily; aspirin 325mg plus sulfinpyrazone 200mg four times daily; and a placebo group. Aspirin therapy reduced the combined incidence of TIA, stroke and death by 19%. If only stroke and death were considered, aspirin reduced the risk by 31%. Sulfinpyrazone treatment did not cause any significant risk reduction. There was no antagonism or synergism between aspirin or sulfinpyrazone. The surprise came when it was found that the benefit of aspirin was confined to men. Reduction of stroke and death was 48% for men with no benefit for women. This finding still remains unexplained, although recent experimental work suggests there is a differential response to aspirin between the two sexes.<sup>16</sup>

A French study published in 1983 included 604 patients with transient or completed cerebral ischemic events followed in a double blind, multicenter trial for an average of 3 years.<sup>12</sup> The patients were randomized into treatment groups comparing aspirin 1g per day in three divided doses, aspirin 1g per day plus dipyrimadole 225mg per day in three divided doses and placebo. Using the end point of fatal or nonfatal cerebral infarction, the rate was 18% for the placebo group, 10.5% for the aspirin group, and 10.5% for the combined aspirin plus dipyrimadole group. This represented a significant difference between the aspirin and placebo groups, but no difference between the aspirin and combined aspirin plus dipyrimadole groups. It was concluded that there was a beneficial effect of aspirin (1g per day) for stroke prevention with no additional benefit observed with dipyrimadole. Also, this study showed no difference in the response of men and women to aspirin, in contrast to the Canadian Trial.

### Anticoagulant Therapy

Although anticoagulants were introduced in stroke prevention in the 1950s, their use in preventing stroke due to cerebrovascular disease remains controversial. Four randomized prospective studies<sup>17-20</sup> comparing anticoagulant treatment to placebo showed no statistically significant difference in the prevalence of stroke or death in the two groups. Although two studies suggested that anticoagulants reduced the number of recur-



rence of TIAs<sup>17,18</sup> the other two studies were inconclusive, including the only double blind trial.<sup>19</sup> Several nonrandomized studies have also shown that anticoagulant therapy does not reduce mortality in patients at risk for stroke.<sup>21-26</sup> However, all these studies showed a decreased incidence of stroke, with one also showing a reduced incidence of TIAs.<sup>21</sup> These studies have been criticized because they involved too few patients, follow-up was too short, there was no randomization or proper controls, and there was inadequate criterion for the diagnosis of TIA.

In contrast to stroke caused by cerebrovascular disease, there is good evidence that anticoagulants are beneficial in stroke caused by cardiac emboli resulting from atrial fibrillation, mitral valve disease, acute myocardial infarction, and insertion of prosthetic heart valves. It is recommended that any patient with a probable cerebral embolism from any cardiac source should be anticoagulated immediately, provided bacterial endocarditis is unlikely, there is no blood in the CSF, and no hematoma on CT scan.<sup>27</sup> If the embolic source is self-limited or treatable, anticoagulation should be discontinued when the high risk period has passed. If the cardiac source cannot be eliminated, anticoagulation should generally be continued indefinitely.<sup>27</sup>

#### **Surgical Approaches to Cerebrovascular Disease**

Carotid endarterectomy is the most established and accepted procedure. Approximately 50,000 carotid endarterectomies are performed each year in the United States.<sup>28</sup> In the arterial system supplying the brain, the highest incidence of atherosclerotic lesions occurs at the origin of the internal carotid artery. In a series of over 1400 arteriograms performed in patients with cerebrovascular insufficiency, approximately 70% had stenotic or occlusive lesions at the origin of the internal carotid artery.<sup>29</sup> In addition to obstructing blood flow, atherosclerotic plaques may ulcerate and form emboli.

Extracranial to intracranial arterial bypass surgery is being done with increasing frequency. Anastomosis of the superficial temporal to the middle cerebral artery is the most common procedure done. This procedure is particularly useful when the internal carotid lesion cannot be reached via the neck. An international controlled study to evaluate the value of the procedure is being done with about 1500 patients presently enrolled.<sup>30</sup> Other procedures being done but with

less frequency are transposition of the vertebral artery to the common carotid artery, and subclavian or vertebral artery endarterectomy.

The generally accepted indication for carotid endarterectomy is as a prophylactic measure to prevent a major stroke in patients with TIAs, RIND, or minor stroke, associated with significant plaque in the ipsilateral common carotid bifurcation.<sup>31</sup> More controversial indications with less documentation of clinical efficacy include an asymptomatic plaque, symptoms referable to the vertebrobasilar system, low perfusion syndrome, recurrent plaque at the site of a previous endarterectomy, and chronic deficit from a major stroke.<sup>31</sup> The major indication for an extracranial to intracranial artery bypass is the prevention of a major stroke in patients with TIAs, RIND, or minor stroke, in the territory of an occluded artery not accessible to carotid endarterectomy.<sup>31</sup>

What results can be expected of surgical attempts to prevent strokes in patients with TIAs? In a recent study by Whisnant, et. al.<sup>32</sup> 151 patients with TIAs in one carotid arterial system underwent carotid endarterectomy on that side. The operative mortality was 1% and the perioperative stroke incidence was 3% (typical of several other recent studies). After 6 years of follow-up 80% of the surgical patients were alive and free of stroke. On an actuarial basis, long-term stroke mortality was 3% per year. The expected rate of stroke for such a group of patients with TIAs is about 6% per year. The authors concluded that long-term stroke morbidity was less in these surgically treated patients than would have been expected for a comparable group of patients with TIA, if surgery had not been done. But it must be emphasized that this was an uncontrolled study.

There is only one controlled randomized study on the effect of carotid endarterectomy on preventing stroke in patients with TIAs.<sup>33</sup> This was done in the 1960s involving 316 patients randomly assigned to surgical and non-surgical groups. These patients had TIAs with no residual. They were followed for an average of 42 months. Although the surgical group had fewer symptoms, TIAs, and strokes postoperatively than the control group, this benefit was offset by operative mortality and morbidity. Overall, surgery did not appear to be a significant benefit. One criticism of this study was that there was a rapid evolution

of surgical techniques during the course of the study. Another criticism was that the patients were a very heterogeneous group with regard to their arterial lesions, 26 had bilateral endarterectomies, 8 had vertebral endarterectomies, and 11 had attempts to restore flow in totally occluded internal carotid arteries. These factors may explain why no significant benefit from surgery was seen. In any event, there is widespread acceptance that carotid endarterectomy is of value in patients with focal symptoms that can be related to internal carotid lesions.

In selecting patients that may benefit from surgical repair of vascular obstruction, it is important to rule out other conditions that may alter cerebral blood flow. These include cardiac arrhythmias, cardiogenic emboli, hematologic diseases such as thrombocytosis and polycythemia, and orthostatic hypotension.<sup>34</sup>

In patients suspected of having operable internal carotid artery lesions, noninvasive screening tests are available that when taken together have a diagnostic accuracy of 90% or better. These tests include carotid phonoangiography (CPA), oculoplethysmography (OPG), and supra-orbital doppler ultrasound.<sup>35</sup> Digital intravenous angiography (DIVA) is a rapidly developing technique that may largely supplant other indirect tests for identifying carotid or other vascular lesions.<sup>36</sup> Using this technique, intravenous injection of contrast material often produces an angiogram comparable to intra-arterial injection, but with less morbidity.

A question of considerable concern is the management of asymptomatic carotid bruits and stenosis. Asymptomatic carotid bruits occur in approximately 5% of the general population over the age of 50,<sup>37</sup> but have poor correlation with the subsequent development of TIAs and strokes. Asymptomatic carotid bruits occur in 10-20% of patients who are referred for coronary artery bypass and peripheral vascular surgery. There is little evidence that the perioperative stroke rate in these patients is increased sufficiently to justify the risk of preoperative endarterectomy.<sup>35</sup>

#### Therapy of Completed Stroke

Medical therapy during the acute phase of a cerebral infarction includes the control of cerebral edema, the use of anticoagulants, management of hemorrhagic stroke, and neurological or neurosurgical consultation.

Cerebral edema appears within a few minutes of cerebral infarction or ischemia, reaches a maximum by the fourth or fifth day, then recedes so that it is virtually absent in a healing infarct after two weeks.<sup>39</sup> Cerebral edema is an important cause of secondary morbidity. It can be recognized easily by the CT scan. Treatment consists of hyperosmolar agents such as mannitol or glycerol,<sup>39</sup> dextran,<sup>40</sup> and corticosteroids (dexamethasone).<sup>39</sup> Cerebral edema secondary to ischemia has been found to be more refractive to corticosteroid therapy, than in cerebral edema secondary to other causes.

The use of anticoagulants in completed strokes is controversial. Anticoagulation is not helpful in established thrombotic or thromboembolic infarcts. They may be useful in progressing strokes or stroke-in-evolution (when neurological deficits increase over a period of several hours, and not caused by intracerebral bleeding).<sup>41</sup> After a CT scan has ruled out intracerebral bleeding, short-term use of heparin followed by chronic therapy with coumadin for three to six months is recommended.<sup>42</sup>

The management of hemorrhagic stroke is entirely different from the management of thrombotic or embolic stroke. During the past few years, the incidence of ischemic stroke has decreased, whereas the incidence of hemorrhagic stroke has remained stable.<sup>10</sup> Patients with hemorrhagic stroke have elevated blood pressure and agitation. Therefore the management includes complete bed rest, analgesics, the use of tranquilizers as indicated, and gradual reduction of blood pressure.<sup>43</sup> Studies have shown that recurrent hemorrhage is a major cause of death or serious morbidity in patients who survive the primary bleed. This is caused by fibrinolysis of the initial clot formed after the first bleed. Therefore the use of antifibrinolytic therapy with aminocaproic acid or tranexamic acid has been suggested.<sup>43</sup>

A CT scan is almost always recommended in hemorrhagic strokes. It helps to establish the diagnosis and helps indicate when a neurological or neurosurgical consultation should be obtained. A CT scan is also indicated in patients with altered consciousness, unstable vital signs, progressing neurological deficits, seizure activity, and nuchal rigidity. A CT scan is probably not indicated in alert patients with stable vital signs and stable well-established neurological deficits.



Neurological or neurosurgical consultation is recommended when there is demonstration of a cerebellar hematoma or intracerebral hematoma by CT scan, or when there is demonstration of a ruptured intracranial aneurysm that can be clipped, or an arteriovenous malformation that can be excised. Consultation is also recommended with the demonstration of complete occlusion of a carotid or vertebral artery that may be amenable to corrective or bypass surgery.<sup>39</sup>

### Rehabilitation of the Stroke Patient

Rehabilitation of the stroke victim has been found to be most successful when a multidisciplinary team approach is utilized.<sup>44</sup> This consists of a core team including the physician, nurses oriented toward rehabilitation, social service, the patient and his family. Other important members include physical therapy, occupational therapy, speech therapy, psychology and psychiatry, and the dietician. The purpose of the team is to perform rehabilitation evaluation and goal setting, then to carry out the rehab program.

During the acute (passive) phase, good nursing care is emphasized, especially in proper positioning, rotation, and passive range of motion of all joints. After three weeks or when the patient is stable, the later (active) phase of rehabilitation consists of improving the activities of daily living (ADL), independent mobilization, and use of necessary prosthetic devices.<sup>44</sup>

Age greater than 80, altered consciousness at onset and residual cognitive deficits tend to be associated with a poor outcome.<sup>45</sup> However, almost all patients who undergo stroke rehabilitation will make some improvement.

Prescott, et. al.<sup>46</sup> using a mathematical model to predict functional outcome of stroke patients, devised the formula:  $Y = 1.6 + 0.4 (MFU + PROP + POSTF)$ , ( $Y$  = predicted independence score,  $MFU$  = motor function of the upper limbs,  $PROP$  = proprioception,  $POSTF$  = postural function). Motor function of the affected upper limbs was scored as follows: complete paralysis = 4, severe weakness = 3, moderate weakness = 2, slight weakness = 1, no weakness = 0. Proprioception was measured by lifting the affected arm to eye level, then trying to grasp the thumb of the affected hand with the good hand. Scoring for proprioception was as follows: severe difficulty = 3, moderate difficulty = 2, slight difficulty = 1, no difficulty = 0. Postural function was scored as follows: patient lying and unable to sit up and

maintain a sitting position = 3, able to maintain a sitting position but unable to stand = 2, able to stand but cannot walk without assistance = 1, walking without assistance = 0. Outcome was divided into 7 categories, from fully independent to failure. Independence was generally seen with a total score of less than 2.4. Dependence was seen with total scores greater than 4.4. With scores between 2.4 and 4.8, there was overlap between good and bad outcomes. Using this equation, the overall success rate in predicting independence was 75% in week 4, and did not drop below 70% until week 13. After one month of hospitalization, the equation helped predict which patients would have a poor prognosis.

### Summary

In this review of therapy of cerebrovascular disease we have attempted to make the following points:

- 1) Aspirin in a daily dose of 1.0 to 1.3 grams is effective in reducing stroke and death rates in patients with TIAs and prior strokes.
- 2) Anticoagulants are useful in preventing TIAs and thromboembolic stroke associated with prosthetic heart valves, mural thrombi in the heart and mitral stenosis with atrial fibrillation.
- 3) Anticoagulants may be indicated in patients with frequently recurring TIAs or progression from TIA to persistent symptoms, but the effectiveness is uncertain.
- 4) Carotid endarterectomy appears to be effective in reducing the frequency of TIAs and stroke in selected patients with symptomatic cerebrovascular insufficiency. An international controlled study to evaluate the effectiveness of extracranial or intracranial artery bypass procedures is in progress.
- 5) At present, prophylactic endarterectomy does not appear to be justified in treatment of asymptomatic carotid bruits or stenosis, either in the general population or in patients referred for coronary bypass or peripheral vascular surgery.
- 6) Medical therapy during the acute phase of stroke includes recognition and control of cerebral edema. The use of anticoagulants is controversial and indicated only in embolic stroke of cardiac origin.
- 7) A CT scan should be obtained in the event of unstable or hemorrhagic stroke. Evacuation of a hematoma may be indicated.

- 8) Physical rehabilitation utilizing a team approach should be started soon after onset. Age greater than 80, altered consciousness at onset, and residual cognitive deficits tend to be associated with a poor outcome.

TABLE 1

**Annual Initial Stroke Incidence Rate Per 100,000  
by Sex and Age at Onset, 1975-1976**

Age	Total	Male	Female
Under 35	3.3	2.5	4.1
35 - 44	31.1	41.5	25.7
45 - 54	106.0	123.0	90.3
55 - 64	262.0	342.0	191.0
65 - 74	582.0	658.0	524.0
75 - 84	1,383.0	1,714.0	1,180.0
Over 85	1,825.0	2,504.0	1,501.0

\*Adapted from Robins, M. and Baum, H. M.: National Survey from Stroke/Incidence. *Stroke* 12, Suppl. 1:2, 45-55, 1981.

## BIBLIOGRAPHY

- Robins, M., and Baum, H. M.: National Survey of Stroke/Incidence. *Stroke* 12, Suppl. 1:2 45-55, 1981.
- Kannel, W. B., Dawber, T. R., Sorlie, P. S., and Wolf, P. A.: Components of Blood Pressure and Risk of Atherothrombotic Brain Infarction. The Framingham Study. *Stroke* 7:327-331, 1976.
- Statistical Bulletin of the Metropolitan Life Insurance Company. Vol. 43, 5, October, 1962.
- Gordon, T., and Kannel, W.: Predisposition to Atherosclerosis in the Head, Heart and Lungs. The Framingham Study. *J.A.M.A.* 222:661, 1972.
- Kannel, W., Gordon, T., and Dawber, T.: Role of lipids in the development of brain infarction. The Framingham Study. *Stroke* 5:679, 1974.
- Barnett, H. J. M., Boughner, D. R., Taylor, D. W., Cooper, P. E., Kostuk, W. J., and Nichol, P. M.: Further evidence relating mitral-valve prolapse to cerebral ischemic events. *N. Engl. J. Med.* 302:139-144, 1980.
- Leonberg, Jr., S. C., and Elliott, F. A.: Prevention of recurrent stroke. *Stroke* 12:731-735, 1981.
- Kannel, W., Gordon, T., Wolf, P., and McNamara, P.: Hemoglobin and the risk of cerebral infarction. The Framingham Study. *Stroke* 3:409, 1972.
- Nomura, A., Comstock, G., Luller, L., and Tomascia, J.: Cigarette smoking and strokes. *Stroke* 5:483, 1974.
- Garraway, W., Whisnant, J., Furlan, A. J., Phillips III, L. H., Kurland, L. T., O'Fallon, W. M.: The declining incidence of stroke. *N. Engl. J. Med.* 300:449-452, 1979.
- Acheson, J., Danta, G., Hutchinson, E. C.: Controlled trial of dipyrimadole in cerebral vascular disease. *Br. Med. J.* 1969; 1:614-615.
- Boussier, M. G., Eschwege, E., Haguenaux, M., et al: "AICLA" controlled trial of aspirin and dipyrimadole in the secondary prevention of atherothrombotic cerebral ischemia. *Stroke* 14:5-11, 1983.
- Evans, G.: Effect of platelet suppressive agents on the incidence of amaurosis fugax and transient cerebral ischemia. In: McDowell, F. H., and Brennan, R. W. (eds) *Cerebral Vascular Diseases, 8th Conference*. New York, Grune & Stratton, 1973, 297:299.
- Canadian Cooperative Study Group: A randomized trial of aspirin and sulfinpyrazone in threatened stroke. *N. Engl. J. Med.* 299:53-59, 1978.
- Fields, W. S., Lemak, N. A., Frankowski, R. F., and Hardy, R. J.: Controlled trial of aspirin in cerebral ischemia. *Stroke* 8:301-316, 1977.
- Kelton, J. G., Hirsch, J., and Carter, C. J.: Sex differences in the antithrombotic effects of aspirin. *Blood* 52:1073-1076, 1978.
- Report of the Veterans Administration Cooperative Study of Atherosclerosis, Neurology Section. An evaluation of anticoagulant therapy in the treatment of cerebrovascular disease. *Neurology (Minneapolis)* 11:132-138, 1961.
- Baker, R. N., Broward, J. A., Fang, H. C., Fisher, C. M., Groch, S. N., and Heyman, A.: Anticoagulant therapy in cerebral infarction. *Neurology (Minneapolis)* 12:823-835, 1962.
- Pearce, J. M. S., Gubbay, S. S., and Walton, J.: Long-term anticoagulant therapy in transient cerebral ischemic attacks. *Lancet* 1965; 1:6-9.
- Baker, R. N., Schwartz, W. S., and Rose, A. S.: Transient ischemic attacks: A report of a study of anticoagulant therapy. *Neurology (Minneapolis)* 16:841-847, 1966.
- Fisher, C.: The use of anticoagulants in cerebral thrombosis. *Neurology (Minneapolis)* 8:311-332, 1958.
- Siekert, R. G., Whisnant, J. P., and Millikan, C. H.: Surgical and anticoagulant therapy of occlusive cerebrovascular disease. *Ann. Int. Med.* 58:637-641, 1963.
- Fazekas, J. F., Alman, R. W., and Sullivan, J. P.: Vertebrobasilar insufficiency: management of patients with vertebral-basilar insufficiency. *Arch. Neurol.* 8:215-220, 1963.
- Friedman, G. D., Wilson, S., Mosier, J. M., Colandrea, M. A., and Nechama, M. Z.: Transient ischemic attacks in a community. *J.A.M.A.* 210:1428-1434, 1969.
- Toole, J. F., Janeway, R., Choi, K., and et al: Transient ischemic attacks due to atherosclerosis. *Arch Neurol* 32:5-12, 1975.
- Olsson, J. E., Muller, R., and Berneil, S.: Long-term anticoagulant therapy for TIAs and minor strokes with minimum residuum. *Stroke* 7:441-451, 1976.
- Easton, J. D., and Sherman, D. G.: Management of cerebral embolism of cardiac origin. *Stroke* 11:433-442, 1980.
- Mohr, J. P.: Asymptomatic carotid artery disease. *Stroke* 13:431-433, 1982.
- Hass, W. K., Fields, W. S., North, R. R., Kricheff, I. I., Chase, N. E., and Bauer, R. B.: Joint study of extracranial arterial occlusion. II: Arteriography, techniques, sites, and complications. *J.A.M.A.* 203:961-968, 1968.
- Amaducci, L., Flamm, E. S., Haynes, R. B., and et al: The International EC/IC Bypass Study. *Stroke* 13:247-248, 1982.
- Ferguson, G. G.: Extracranial carotid artery surgery. *Clinical Neurosurgery* 29:513-574, 1982.
- Whisnant, J. P., Sandok, B. A., and Sundt Jr., T. M.: Carotid endarterectomy for unilateral carotid system transient cerebral ischemia. *Mayo Clin. Proc.* 58:171-175, 1983.



33. Fields, W. S., Maslenikov, V., Meyer, J. S., Hass, W. K., Remington, R. D., and MacDonald, M.: Joint Study of extracranial arterial occlusion. IV: Progress report of prognosis following surgery or nonsurgical treatment for transient cerebral ischemic attacks and cervical carotid artery lesions. *J.A.M.A.* 311:1993-2003, 1970.
34. Ratcheson, R. A.: Clinical diagnosis of atherosclerotic carotid artery disease. *Clinical Neurosurgery* 29:461-481, 1982.
35. Crowell, R. M., Kistler, J. P., Ojemann, R. G., Thompson, R. A.: Noninvasive techniques in cerebrovascular diagnosis. *Clinical Neurosurgery* 29:489-510, 1982.
36. Little, J. R., Furlan, A. J., Modic, M. T., Weinstein, M. A.: Digital subtraction angiography in cerebrovascular disease. *Stroke* 13:557-566, 1982.
37. Yatsu, F. M., Hart, R. G.: Asymptomatic carotid bruit and stenosis. A reappraisal. *Stroke* 14:301-304, 1983.
38. Hart, R. G., Easton, J. D.: Management of cervical bruits and carotid stenosis in preoperative patients. *Stroke* 14:290-297, 1983.
39. Meyer, J. S.: Course, prognosis and medical management of patients with acute stroke. In Meyer, J. S., and Shaw, T. (eds) *Diagnosis and Management of Stroke and TIA*. Menlo Park, California Addison-Wesley Publishing Company 1982:156-172.
40. Katzman, R., Clasen, R., Klatzo, I., and et al: Brain edema in stroke; study group in brain edema in stroke. *Stroke* 8:509-540, 1977.
41. Byer, J. A., Easton, J. D.: Therapy of ischemic cerebrovascular disease. *Ann. Int. Med.* 93:742-756, 1980.
42. Yatsu, F. M.: Acute medical therapy of strokes. *Stroke* 13:521-526, 1982.
43. Adams, H. P.: Current status of antifibrinolytic therapy for treatment of patients with aneurysmal subarachnoid hemorrhage. *Stroke* 13:256-259, 1982.
44. Grabis, M.: Rehabilitation of patients with completed stroke. In: Meyer, J. S., and Shaw, T. (eds) *Diagnosis and Management of Stroke and TIA*. Menlo Park, California Addison-Wesley Publishing Company 1982:267-291.
45. Feigensohn, J. S., McDowell, F. H., Meese, P., McCarthy, M. L., and Greenberg, S. D.: Factors influencing outcome and length of stay in a stroke rehabilitation unit. *Stroke* 8:651-662, 1977.
46. Prescott, R. J., Garraway, W. M., and Akhtar, A. J.: Predicting functional outcome following acute stroke using a standard clinical examination. *Stroke* 13:641-647, 1982.



# Radiology Perspective:

## The Apple Peel Small Bowel Deformity

J. R. McConnell, M.D.

### Case Report

This newborn male developed bile stained vomiting at the age of four hours. The prenatal course was uncomplicated and there was no history of polyhydramnios. The birth weight was 2900 grams. Plain abdominal radiographs showed several distended loops of bowel with air-fluid levels in the mid abdomen. There was no demonstrable gas in the distal bowel (Fig. 1). A barium enema examination showed incomplete rotation of the right colon with the ileocecum in the right upper quadrant (Fig. 2). The diagnosis of proximal small bowel obstruction and malrotation was made and laparotomy was performed. The laparotomy showed a markedly dilated proximal duodenojejunal segment which ended blindly. The distal small intestine was coiled in a spiral configuration. There was no intervening mesentery or bowel between the distal spiral bowel and the dilated proximal segment (Fig. 3). In addition, Ladd's bands were encountered across the duodenum. The cecum was malrotated and positioned in the right upper quadrant. The bands were surgically divided and a gastrostomy and Bishop-Koop end-to-side jejunojejunostomy were done. The gastrostomy was closed at 3 months of age.

### Discussion

The essential features of the apple peel small

bowel deformity include jejunal atresia, spiral coiling of the distal small intestine (apple peel) and incomplete cecal rotation and fixation. The apple peel distal small intestine is completely detached from the dilated proximal jejunum and there is no connecting small intestine or mesentery. A familial incidence of the anomaly has been reported. Mishalany and Najjar suggested



Figure 2.

A barium enema examination showed malposition and incomplete rotation of the right colon with the cecum in the right upper quadrant.

an autosomal recessive mode of inheritance, but the hereditofamilial aspects have not been clearly defined.<sup>5</sup>

Santulli and Blanc originally used the term "apple peel" small bowel to describe this anomaly in 1961.<sup>1</sup> Orvar Swenson suggested the term "Christmas Tree" deformity because the spiral coiling of the distal small intestine around its rudimentary mesentery resembles tinsel around a Christmas tree, the tree trunk representing the



Figure 1.

Plain upright radiograph of the abdomen demonstrates dilated bowel with multiple air fluid levels and no distal bowel gas.



mesenteric vascular supply.<sup>2</sup> It has been demonstrated that mechanical injuries resulting in ischemia of the bowel during fetal life can cause small bowel atresia. Moreover, there is a reported high incidence malrotation of the colon in this

syndrome.<sup>4</sup> Thus the high incidence of midgut malrotation and malfixation associated with this syndrome and the known predisposition of congenital malrotation to develop volvulus of the midgut suggests that the apple peel small bowel may result from prenatal ischemic volvulus.<sup>1,2</sup>

Radiology can play a significant role in the preoperative diagnosis of the apple peel deformity when the combination of proximal small bowel obstruction and malrotation are present in the neonate. Preoperative diagnosis is very helpful in the planning of the surgical management since the procedure of choice in this entity differs from that in the usual variety of intestinal atresias. According to Dickson, survival is enhanced following gastrostomy and the Bishop-Koop end-to-side jejunojejunostomy.<sup>3</sup>

#### REFERENCES

1. Santulli, R. V., and Blanc, W. A.: Congenital Atresia of the Intestine-Pathogenesis and treatment. *Ann. Surg.* 154:939, 1961.
2. Weitzman, J. J., and Vanderhoff, R. S.: Jejunal atresia with Agesis of the Dorsal mesentery with "Christmas Tree" Deformity of the Small Intestine. *Amer. J. Surg.* 111:443, 1966.
3. Dickson, J. A. S.: Apple Peel Small Bowel: An Uncommon Variant Duodenal and Jejunal Atresia. *J. Pediatr. Surg.* 5(6):595, 1970.
4. Leonidas, J. C., Amoury, R. A., Ashcraft, K. W., and et al: Duodenojejunal Atresia with "Apple-Peel" Small Bowel. *Radiology* 118:661, March 1976.
5. Mishalany, H. G., and Najjar, F. B.: Familial Jejunal Atresia: Three Cases in One Family. *J. Pediatr.* 73:753, Nov. 1968.



Figure 3.

The dilated duodenojejunal segment is shown to the right and the coiled apple peel distal small bowel is shown on the left. There is no connecting bowel or mesentery.



# Update in Dermatology:

## Disseminated Superficial Actinic Porokeratosis\*

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### Abstract

Physicians may be confused by an eruption which superficially resembles widespread actinic keratoses. A case report and discussion of this disorder, disseminated superficial actinic porokeratosis, is presented.

### Introduction

Disseminated superficial actinic porokeratosis (DSAP) is an uncommon genodermatosis that is easily confused with multiple solar keratoses, which perhaps explains why it has only recently been described.<sup>1</sup> The incidence is higher in a sunlight-intense climate, such as Arkansas, where it should be included in the differential diagnosis of solar keratosis and other light-induced dermatoses. The following patient has a negative family history, but otherwise illustrates DSAP very well.

### Case Report

A 53-year-old fair-complexioned white male presented in 1981 with asymptomatic annular lesions of the face, back, and upper extremities of six years' duration. The family history was negative for similar lesions. He had previously been treated for two basal cell epitheliomas and multiple actinic keratoses.

Examination revealed numerous 1 cm erythematous plaques and papules with annular keratotic borders distributed symmetrically over sun-exposed areas of the face, back, and upper extremities. Multiple actinic keratoses were also scattered over sun-exposed areas.

A biopsy specimen from the margin of a typical plaque demonstrated mild hyperkeratosis with central atrophy bordered by a parakeratotic column or cornoid lamella. The dermis showed a mild perivascular infiltrate of lymphocytes and histiocytes.

Therapy with 5-fluorouracil 5% cream BID was ineffective, but the condition improved following treatment with liquid nitrogen spray.

### Discussion

Disseminated superficial actinic porokeratosis characteristically begins around 30-40 years of age, with 50 or more annular hyperkeratotic lesions, which are remarkably uniform (0.5-1.0 cm) in size. Pruritus is mild or absent. Patients with DSAP typically lack adequate pigmentation for sun protection. They are consequently predisposed to other forms of actinic damage, including actinic keratoses and cutaneous malignancies. Our patient illustrated these features.

Inheritance of DSAP has been shown in most patients to be autosomal dominant with reduced penetrance at younger ages,<sup>2</sup> but our patient lacked such a family history. This case likely represents a spontaneous mutation.

Each lesion results from a mutant clone of epidermal cells<sup>3</sup> probably stimulated to proliferate abnormally under the influence of ultraviolet light in the sunburn range (UVB). Lesions start as papules and enlarge by peripheral migration of the abnormal cells resulting in annular lesions.

In our patient's case, therapy with topical 5-fluorouracil cream was ineffective. Many therapeutic modalities including intralesional steroids, liquid nitrogen, keratolytics, topical tretinoin, and 5-fluorouracil cream have been employed to treat DSAP with mixed results. Effective treatment is limited by the multiplicity of lesions, resulting in reduced patient compliance. However, clinical remission occurred in one case of DSAP treated with Ro 10-9359, an aromatic retinoid.<sup>4</sup> This second generation retinoid is not yet available in this country, and the value of the only available synthetic retinoid, 13 *cis*-retinoic acid, is not known.

DSAP is essentially benign although squamous cell carcinoma has developed in typical lesions.<sup>5</sup> The actinic keratoses and basal cell epitheliomas found previously in our patient were apparently not related to lesions of DSAP.

Although uncommon DSAP may be suspected on clinical grounds and proved histologically. This is another in a long list of photodermatoses that plague Arkansas and other states that are

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blessed with an abundance of sunlight.

#### REFERENCES

1. Chernosky, M. E., and Freeman, R. G.: Disseminated superficial actinic porokeratosis (DSAP). *Arch Dermatol* 96:611-624, 1967.
2. Anderson, D. E., and Chernosky, M. E.: Disseminated superficial actinic porokeratosis: Genetic aspects. *Arch Dermatol* 99:408-412, 1969.
3. Reed, R. J., Leone, P.: Porokeratosis — A mutant clonal keratosis of the epidermis. *Arch Dermatol* 101:340-347, 1970.
4. Kariniemi, A., Stubb, S., and Lassus, A.: Treatment of disseminated superficial actinic porokeratosis with a new aromatic retinoid (Ro 10-9359). *Br. J. Dermatol* 102:213-214, 1980.
5. Shrum, J. R., Cooper, P. H., Greet, K. E., and Landes, H. B.: Squamous cell carcinoma in disseminated superficial actinic porokeratosis. *J. Am. Acad. Dermatol.* 6:58-62, 1982.



## EDITORIAL

### MEA CULPA

## Are We Physicians at Fault?

Alfred Kahn, Jr., M.D.

The problem of medical insurance is still rankling the public and physicians. The superficial—but still, the really important aspect of the problem—is the bottom line: do the patients get paid and/or does the hospital get paid by the insurance company after an illness. The philosophic aspects of the situation tend to run far deeper. In the first place, part of the problem is an outgrowth of an internecine problem which has not been solved, and part of the problem is the result of groups of well-meaning individuals trying to help the public—and eventually becoming the victims of their own well-meaning efforts.

In an effort to avoid socialized medicine, which has been practiced in some countries abroad, physicians in America have tried to sponsor the cost of medical care by personal payments, private insurance, and, to an extent, by Medicare and Medicaid. In general, the thrust of private physicians is to avoid government interference in medicine wherever and whenever possible, as the heavy

hand of bureaucracy seems to retard good medical practice in the eyes of American physicians.

In Arkansas, around 1950, private physicians were instrumental in promoting medical insurance by private carriers. Some physicians literally stumped the state trying to explain the benefits of private insurance versus government insurance. As a result of their efforts, Blue Cross and Blue Shield ultimately became a successful health insurer in Arkansas. Private physicians were in the forefront in promoting the Blues. They did not want the government to say we will pay you such-and-such a sum for such-and-such a procedure. They did not want to receive a check at the end of the month from the government saying that this is your pay for your professional services performed during the past month without regard to the effort expended. No one can argue that in the capitalistic society the physicians made a wise move in trying to avoid so-called socialized medicine.

Private insurance for health problems went along fairly smoothly for a number of years. However, just like a Treadmill Test stresses the heart to find hidden problems, so has inflation and recession stressed the health insurance situation.

In the first place, there is an internecine problem which has not been adequately addressed or solved, which, to a certain extent, has been swept under the rug. The background of the problem is that, of course, all insurance companies have only a limited number of funds to pay out. The amount of funds which they pay out depends on the size and number of premiums they collect, and, like every other product, the premiums have to be a salable product that cannot be so much that the public is discouraged from purchasing the product. Given a certain limit that can be expended is like being given an apple pie and deciding how big and how many slices there will be—to feed a family. Saying this a different way, it is possible to preemt an insurance company of a large sum of money if the medical fees paid out are too high; this does not imply that the fees are not fair and reasonable. What it is really saying is that in a free society, and in a society in which all physicians to a certain extent participate in third party payments by insurance characters, how should the pie be cut?

It is very important to acknowledge that the physician has a perfect right to set what fees he thinks are fair for his services. But, an insurance company cannot necessarily pay the entire fee billed to the patient if the fee is a high one. The physician and patient have a right to set the fee, but, to repeat, the insurance company may not be able to pay all of the fee if it is an extremely big one—the physician should be free to charge more than the insurance company pays if it is his usual and customary fee and if the patient knows this ahead of time. The insurance company should not be in a position to dictate maximum fees by any form of pressure or coercion.

Another problem which has not been adequately worked out is the matter of compensation for physicians who do not perform procedures. This problem has produced rankling disagreements in many areas. Both types of physicians are necessary for good patient care. If there is a wide disparity in payment between the two groups, there will inevitably be a tilt among young physicians to go into limited medical and surgical

specialities oriented around well-defined procedures for which there is a fully-recognized adequate compensation scale. What will become of the general physician—will he have to give medical services as though he had a fast food store, will he have to learn procedures at the expense of being a primary physician, will he be gradually phased out of personal private practice into vast cooperative health programs—and so on. Primary physicians are important, as are the internist quarterbacks who collate the skeins of information from the various subspecialists attending a patient—but are they going to survive in the present economic environment?

Another factor which has tended to disrupt insurance medicine is the rocketing costs of hospital care. This is difficult for physicians to control. The hospital is not alone a hotel with people living there, but it also runs a group of professional services for the occupants of the hospital above and beyond simple domiciliary care. Labor costs have gone up. Equipment costs have gone up. Food costs have gone up. Every aspect of living has increased, and especially the cost of medical equipment. The result is higher charges to the patient and the further result is a higher bill to be paid by the insurance company. The fault is not the insurance company. The fault is not the hospital. The fault is inflation.

The current economic squeeze has led the public—and the medical profession into some vistas as yet untravelled. The public is seeking a guaranteed upper limit of medical expenses. This is understandable—but, in a certain sense, it's what might be termed a "controlled economy". The physicians and hospitals have reacted in various ways. Contrary to medical concepts and regulations of a few years ago, many physicians are now advertising in various ways. The start was in the Yellow Pages of the phone book. This has since spread to brochures, mail-outs, and so on. One physician, writing in a well-accepted free medical paper described how he felt the competitive stress was so great that he actually hired a public relations man. The hospitals now advertise in the media—newspapers, radio, television and journals. All of this has a very serious disadvantage to the patient. It emphasizes the cost of medical care rather than the quality of medical care. The question which arises in this contest is whether or not quality of medical care will not



become entirely secondary to the cost of medical care—either now or as time goes by.

In the context of all this, one is reminded of the "Letter to the Editor" written to the *Arkansas Gazette* in the late winter of 1983 in which a physician complained that the doctors were not keeping a lid on costs. In a certain sense, the writer was correct although he was informing the wrong audience. To an extent, he picked the wrong forum. Actually, physicians in America, to a certain extent, are guilty of default, but not exactly in the ugly sense of the word. They are guilty of becoming so busy in the 1960's and 1970's that they really did not have time to recognize a problem which they failed to face and the solution of which, from their point of view, is probably irreversible. The problem which they are guilty of is default as leaders of the health profession. Physicians, by virtue of their focal position and education, should be in the forefront and leading the health professions. The leaders should be in the ranks of private medicine and not from the ivory tower—as the private physicians are directly involved.

In years past, private physicians were instrumental in setting hospital policies. Their position is now definitely secondary. In years past, private physicians were instrumental in assigning and delineating the roles and interactions of the

nursing profession and the other health-related activities as medical technologists, laboratory technologists, radiologic technologists, etc. Physicians have a relatively reduced role in these areas because of default. They used to be the leaders and coordinators. At the present time, it is difficult to define who really leads the medical and health-related professions and services.

In any event, the failure by the physicians, as a group, to provide strong leadership may, to a certain extent, be the reason for the escalating costs of hospital care and some of the other problems for which the health care services are blamed.

Some of the facts eluded to in this article are not correctable—some are correctable. In any event, it is probably worthwhile to look around at the health services and health providers and acknowledge that it is an imperfect system. Furthermore, there are areas to which physicians could address themselves and restore leadership for the benefit of the public—and indirectly to themselves.

There will never be a perfect system for the practice of medicine, and this is not really the goal of this editorial, but really the intent here is to say our system is imperfect and could be improved. And there is a need to re-examine the health services impartially from time to time.

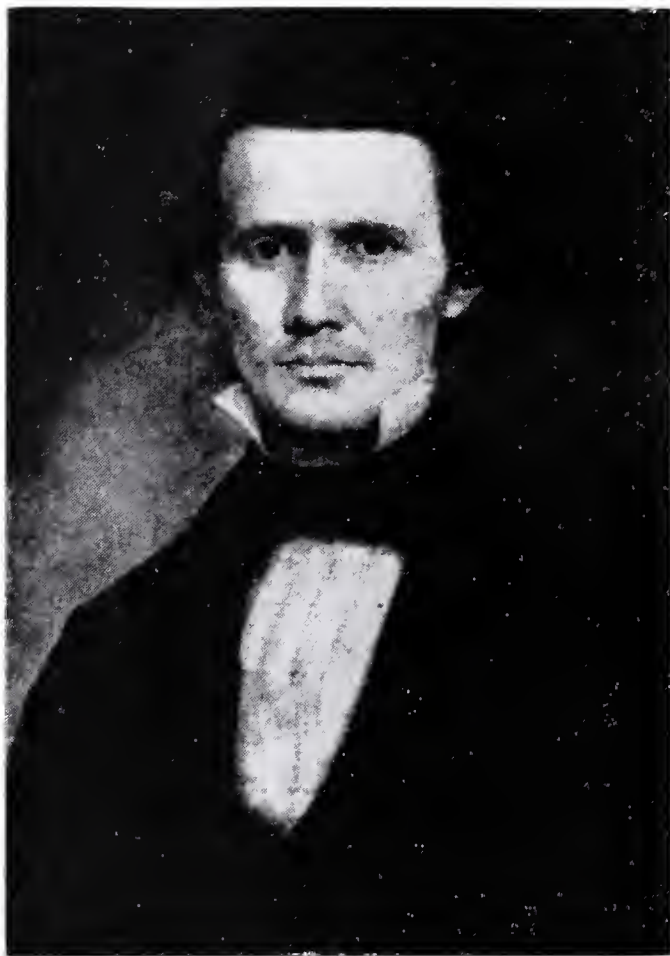


## *"From Other Years"\**

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

# John J. McAlmont, M.D. 1821-1896

Richard B. Clark, M.D.\*



John Josephus McAlmont was born December 19, 1821, in Hornellsville, New York.<sup>1</sup> He graduated from Western Reserve College, Cleveland, Ohio in 1849, and came to Arkansas in 1850, first practicing in Benton then settling in Little Rock two years later.<sup>2</sup> Along with his medical practice, he was a partner in a drugstore located on the northeast corner of Markham and Main in Little Rock.<sup>3</sup>

Dr. McAlmont married Martha Jane Gregg in New York in 1845, and the couple had two daughters. The Civil War was especially harsh on the McAlmont family, causing them to lose virtually everything.<sup>1</sup> McAlmont had served as a Major of militia in the Confederate forces.<sup>3</sup> A brother, Dr. Corydon McAlmont,<sup>4</sup> died in Little Rock of typhoid during the war; the brother's

daughter was reared by the McAlmonts as though she were their own.<sup>5</sup> A later Little Rock physician, Dr. Corydon McAlmont Wassell (1884-1958) was named for this brother, his grandfather.<sup>6</sup> Dr. McAlmont was elected Mayor of Little Rock in 1866.<sup>1</sup>

Probably McAlmont's most significant contribution to Arkansas medicine was the part he played as one of the founders of the University of Arkansas School of Medicine. He, along with Drs. P. O. Hooper, Edwin Bentley, A. L. Breysacher, Roscoe G. Jennings, James A. Dibrell, Jr., James H. Southall and Claibourne Watkins comprised the first faculty of what was to eventually become the College of Medicine.<sup>7</sup> Dr. McAlmont was treasurer for the institution, and served as Professor of Materia Medica. McAlmont Street, on which the University Hospital was located from 1935 to 1956, was named in his honor.<sup>3</sup>

Dr. John was a Knight Templar, a steward and a trustee of the First Methodist Episcopal Church, a trustee of St. John's college, attending physician and trustee for the School for the Blind, and Director of the Arkansas Female Academy.<sup>3</sup> He died September 6, 1896, and is buried in Mount Holly Cemetery.<sup>8</sup>

### REFERENCES

1. Obituary: Dr. J. J. McAlmont. *Journal of the Ark. Med. Soc. (old series)* 8 (Jan., 1897):22-25.
2. Walls, Edwina: *Pioneers of the Arkansas Industrial University, Medical Department. Pulaski County Historical Review.* 27 (Fall, 1979):67-83.
3. Reaves, Lucy Marion: *Glimpses of Yesterday. Arkansas Gazette,* August 27, 1939.
4. Fletcher, Mary P.: *Some Little Rock Doctors and the Conditions Under Which they Practiced. Arkansas Historical Quarterly* 2(1943):20-31.
5. Bridges, Martha: *The McAlmont Family of Little Rock Views the Civil War. Pulaski County Historical Review.* 25 (1977):43-55.
6. Wassell, Mrs. John: Telephone interview, October 12, 1983.
7. Baird, David W.: *Medical Education in Arkansas. Memphis State University Presentation, Memphis, TN 1979.*
8. Smith, Mrs. George Rose: Telephone interview, October 17, 1983.

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# MEDICINE IN THE NEWS



## THE MONTH IN WASHINGTON

### AMA Spearheads Freeze Opposition

Anticipating renewed attempts to freeze Medicare payments to physicians and require assignment of all Medicare claims, the AMA called on physicians to notify Congress of their opposition to such plans.

AMA thus resumed in January a campaign that was deferred when Congress adjourned in November without acting on several proposals.

Nearly certain to be resurrected early in Congress, the various proposals are driven by a projected \$200 billion federal deficit and an impending financial disaster in Medicare. They are attached to three major vehicles: the President's fiscal 1985 budget proposal; efforts to reconcile projected 1984 spending with Congressional budget targets; and a budget deficit reduction plan being pursued in the Senate Finance Committee.

In fighting the proposed changes in Medicare treatment of fees, the AMA and other physician groups concentrated on the mandatory assignment provisions which they regarded as major philosophical and contractual changes in Medicare.

The January letter to AMA members credits assistance from individual physicians as key in successful efforts to stop the enactment of mandatory assignment provisions last year. It observed that such proposals "could reduce the number of physicians in the Medicare program, and urged physicians to write their Congressmen of their opposition to proposals: "that would take away or limit your freedom to choose assignment on a case-by-case basis; that would unfairly reduce compensation for your services; and that would limit the freedom of choice of Medicare patients."

\* \* \* \*

### More Baby Doe

Federal regulations were issued in January, but the "Baby Doe" controversy shows no signs of quieting.

The new regulations offer changes of style, not

substance. Although the new rule says that hospital review boards can act as mediators in disputes over care, it retains the government's right of final say. The Department of Health and Human Services is still free to override the opinions of parents, physicians, hospital administrators, and even the review board.

Posted notices, although smaller and more discreet in location, will still publicize the toll-free, 24-hour HHS phone number. However, cases of suspected neglect may be reported to the hospital review board or state child protection agency instead of Washington, D. C. If federal HHS offices decide that neglect did occur, the hospital stands to lose all federal funds, including Medicare and Medicaid.

The rule's start-up date, set for Feb. 11, should be deferred, say a coalition of medical groups. According to a letter sent to HHS Secretary Margaret Heckler by the American Medical Association, the American College of Obstetricians and Gynecologists, the American Academy of Family Physicians, and the Association of American Medical Colleges, a deferral will give the courts time to decide whether Section 504 of the Federal Rehabilitation Act applies, as HHS claims it does.

The extra time would also give local ethical review boards a chance to offer advice about these critical care decisions, according to the coalition. Many of these committees are just now being established and could operate more smoothly without HHS breathing down their necks, they say.

Furthermore, a deferral would not affect the claimed authority of the government in the "Baby Doe" arena, the medical groups told Heckler. It is unlikely that a deferral would interfere with any life-saving measures, they added.

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### Medicare Physicians Lists Out

Medicare officials have called for preparation of directories of physician Medicare assignment rates.

The directories, compiled by the insurance

plans which contract to administer Medicare, are not likely to be entirely satisfactory to either beneficiaries or physicians. However, Health Care Financing Administration (HCFA) officials say they are to be updated after June 1 and they regard this effort as a trial run.

Under the present arrangement, Medicare contractors will distribute their own directories of physicians in their area to Social Security offices and to state and area Agencies on Aging. Groups representing the elderly and state medical societies and health organizations can obtain a copy of the directory from the carrier, and individuals may examine the directories at the Social Security or AOA offices. HCFA also plans to make lists available for purchase, probably through the Medicare contractors.

HCFA provided only general instructions to the contractors, directing that the guides be understandable to the elderly and that they identify the percentage of assigned claims in increments of 10; i.e., from 0-10% to 90-100%. Data is provided on medical suppliers and other health care providers as well as physicians. Providers submitting less than 100 claims to Medicare in the previous year are not included.

In organizing the directories, some Medicare contractors provided extensive explanations of the types of data included and provided phone numbers for questions; others included only sketchy explanations. Some listed all physicians in the contractor area alphabetically; others broke the listing down into small geographic areas or organized according to specialty or percentage of claims accepted on assignment. Some did not even list the specialty.

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#### **Healthier America, But There's A Cost**

Americans are healthier than ever, according to the annual report, "Health United States," released by the Department of Health and Human Services in January.

But the price tag for health care services also continues to climb, outstripping inflation, the report shows.

#### **Health Status**

- After a temporary decline after the 1980 flu epidemic, American life expectancy has resumed its upward trend. Women born in 1982 can expect to live to age 78.2 years, up from 77.9 years in 1981. Men will live an average of 70.8 years, up from 70.3 in 1981.

- Infant mortality continues to decline, reaching 11.2 deaths per 1,000 live births, down from 11.7 deaths in 1981. But the mortality rate for black infants remains almost twice as high as for whites.

- Fertility climbed in the late 1970s, reversing the plummet of birth rates seen in the early part of the decade. Yet, it is far from the proportions of the "baby boom" of the 1950s. There were 15.9 births per 1000 population in 1980, compared to 25.0 births per 1000 population in 1955. The average number of births expected by women 18-34 years of age has decreased during the past decade from 2.6 in 1971 to 2.2 in 1980.

- Cardiovascular disease and cerebrovascular disease claimed fewer lives in 1982 than in 1981, from 196 to 190 deaths per 100,000 population and 38 to 36 deaths per 100,000 population, respectively. Malignant neoplasms have increased, however, from 131 to 133 deaths per 100,000 population between 1981 and 1982.

#### **Health Care Expenditures**

- In 1982, health care expenditures in the United States totalled \$322.4 billion, an average of \$1,365 per person, and comprised 10.5% of the gross national product. By comparison, 1981 health care expenditures totalled \$286.6 billion, an average of \$1,225 per person, and comprised 9.8% of the gross national product.

- Medical care prices continued to increase above and beyond the inflation rate, the report said. Between 1981 and 1982, medical care prices grew 11.6%, compared to a 6.1% increase in the Consumer Price Index. In the prior year, medical care prices grew 10.8%, compared to a 10% increase in the overall index.

- Hospital care expenditures continue to claim the largest share of the health care dollar; 42% of all expenditures in 1982. Physician services, dentist services and nursing home care accounted for 19%, 6% and 9%, respectively.

#### **Utilization of Health Care Resources**

- Cardiac catheterization among middle-aged and elderly men continues to increase rapidly. Between 1979 and 1981, cardiac catheterization increased 97% for men over age 65 and 34% for men aged 45-64. Coronary bypass surgery increased 27% for younger men and 89% for men over age 65.

- CAT scans among hospitalized persons doubled between 1979 and 1981, from 0.8 to 1.8 per 1000 persons in all age and sex groups.



- Diagnostic ultrasound among hospitalized women increased 91% between 1979 and 1981. The increase was particularly dramatic—126%—in women over age 65.

- Lens extraction among the elderly increased 30% between 1979 and 1981. Furthermore, 57% of these procedures were accompanied by the insertion of a prosthetic lens in 1981, compared with 36% in 1979.

#### Health Care Resources

- The proportion of women among graduates of health professions' schools has increased steadily since the 1960s. The proportion of female medical school graduates jumped from 5% in 1955 to 23% in 1980.

- Compared to voluntary hospitals, both urban and rural public hospitals had higher newborn death rates and a greater incidence of low-birth-weight infants.

- In metropolitan areas, public hospitals treated more minority patients than voluntary hospitals (20% vs. 11%), more Medicaid patients (15% vs. 8%), and more uninsured patients (12% vs. 6%).

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#### White House Accepts 'Inefficiency' Report

A White House review team says it has agreed at least in part to about 95% of the recommendations of a Presidential Task Force charged with "rooting out inefficiency in government." The White House has not yet reviewed a special report that strongly criticizes the new Medicare diagnosis related groups (DRGs) payment plan, however.

Furthermore, although both the President and his staff are publicly praising the President's Private Sector Survey on Cost Control, their support contains some carefully-worded caveats, and privately many Administration officials are questioning the group's recommendations.

A group of business executives headed by Peter J. Grace of the W. R. Grace Company, the Private Sector Survey produced 47 volumes and 2,500 recommendations they said could save the government \$400 billion over three years. About \$45 billion of the savings would come from health programs.

Critics have charged that the recommendations simply rehash suggestions that have been floating around Washington for years, that the savings are overstated, and that many of the proposals are politically impossible. Much of the savings would not accrue until well into the next century.

Much of the Commission's work was completed last summer and a team of White House and Office of Management and Budget staff have been reviewing the proposals made at that time. A White House spokesman said the review teams agreed in part with 95% of the recommendations for HCFA and PHS and 75% of those for the management of the Department of Health and Human Services.

Most of the recommendations contained many subproposals, however, and members of the review team hedge their estimates of approval rates for the Commission's proposals by noting that the reviewers agreed to "implement at some level" the overall recommendations. No specifics are available. The White House has not yet seen a just completed special report that strongly criticizes Medicare's diagnosis related groups payment scheme before concluding that its use is justified for "short-term crisis management."

For HHS as a whole, the Grace Commission called for a 20% reduction (1500 positions) in management staff, including the elimination of the Office of Assistant Secretary for Health. HHS Secretary Margaret Heckler announced earlier this year that in line with the Commission proposals, she is freezing hiring in her office.

For HCFA, major Commission recommendations included: moving away from fee for service reimbursement to physicians; reducing excess hospital capacity; reducing and consolidating HCFA staff; expanding the use of competitive bidding for contracts to administer Medicare; and expanding DRGs to cover all payers. The report called for experiments with physician reimbursement based on fee schedules and on preferred provider organizations.

The Reagan Administration has opposed expanding DRGs to all payers and in its final report, the Commission, without overtly withdrawing its earlier recommendation to expand the system, labeled this a "short term response" which in the long term should be replaced.

For the PHS, the task force recommended: limiting the administrative costs for National Institutes of Health research grants; revising payment procedures for contracted care under the Indian Health Service; reducing eligibility for Indian Health Service benefits; consolidating federal toxicology testing; eliminating staff; increasing funds collected from National Health

Service Corps sites; and improving collection of student loans.

In other health-related recommendations, the commission suggested that the cost of federal employees' health benefits be constrained by permitting employees to change plans only once every two years and that a "health agency" be created within the Department of Defense. The new agency would manage what now amounts to four independent health systems within DOD.

The commission was particularly critical of the Veterans Administration Hospitals system, concluding that their average length of stay is probably too long and that VA hospitals are under utilized. It recommends converting VA hospital beds to long term care beds and said VA health facilities should be shared by active military personnel and dependents.

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#### **HHS Backs Away From Loan Suspensions**

The Department of Health and Human Services, concerned over potential political ramifications, has backed down on its plan to suspend 37 medical schools from the \$246 million federal student loan program.

HHS had said that it would penalize the medical and other health professions schools if they could not lower loan delinquency rates to 5% of money owed by January 1, 1984. Some 123 schools were informed in November that they had not met the standard and would be suspended if they could not meet the target or cut delinquency rates in half by December 31.

A flurry of meetings between the White House, its Office of Management and Budget and HHS has now brought another postponement of the deadline—to December 31, 1984.

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#### **Hospitals Win/Lose Under Final DRGS**

Hospitals got several things they asked for in the final regulations for medicare's new fixed-price payment system, but they'll have to live with a \$24 million reduction in reimbursement next year.

The final regulations for the Diagnosis Related Groups (DRGs) published in the Federal Register January 3 offer several important changes in the regulations in effect since October 1. The new rules are expected to cut Medicare payments to hospitals by more than \$100 million a year after 1986.

Hospitals generally were pleased with changes

that loosen the criteria for exemptions from DRGs for certain types of hospitals, that permit hospitals to charge Medicare patients for requested services the hospital and physician have found unnecessary, and modify the calculation of payments for unusually lengthy or costly cases. Some physician groups, including the AMA, commended HCFA for modifications relating to indirect medical education costs, but they reiterated their opposition to the "radical restructuring" of the health care system under DRGs.

Both hospitals and physician groups are unhappy about an OMB-instigated modification that hospital experts predict will reduce the payment per Medicare case by \$9 to \$13 and decrease total Medicare payments to hospitals by \$24 million next year. The diminished payments result from a decrease in the inflation update for DRG rates from the 11.7% published in the interim regulations to 10.9% in the final regulations.

Though critical of the precedent set by the reduction in the inflation factor, hospital officials say its initial impact is outweighed by their success in renegotiating the way DRG payments are calculated for outlier cases that exceed normal lengths of stay or are unusually costly. In effect, the change means that during the transition to a totally national DRG rate, hospitals will be paid somewhat more for the bulk of their cases but will receive less for outlier cases than under the interim regulations.

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#### **Abortion Foes Rally Again**

With the presidential elections quickly approaching, the issue of abortion once again has become a rallying point for special interest groups.

Abortion opponents plan to support President Reagan for a second term. Recently about 30 members of the March for Life, Inc., met with Reagan, asking him to stop all funding for abortion and support a "human life amendment." In his State of Union address, Reagan said he had "joined bipartisan efforts to restore protection of the law to unborn children."

Additionally, the nation's largest anti-abortion political action committee recently sent black wreaths to Congressional offices, along with a note advising them that their voting records have "contributed to the slaughter of 15 million tiny Americans." This PAC, which ranks second in nationwide independent PAC expenditures, will target for defeat 12 still-unnamed members of Congress.



Abortion supporters such as the National Abortion Rights Action League (NARAL) say they will support almost any Democratic candidate opposing Reagan. All Democratic candidates except former Florida governor Rubin Askew defend abortion rights. NARAL is concerned that Reagan will have the opportunity to appoint two to four new Supreme Court justices in the next term, which could shift the court majority from a pro-abortion to anti-abortion stance.

The group plans to spend \$400,000 this year to defeat Sen. Jesse Helms (R-NC), Sen. Roger Jepsen (R-Iowa), and Rep. James Oberstar (D-Minn.) and support Sen. Charles Percy (R-Ill.) and Rep. Paul Simon (D-Ill.), among others.

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### Diet/Drug Studies Reduce Heart Attack Risk

Coronary heart disease can be prevented in men at high risk by lowering blood cholesterol levels through diet and drugs, according to a government study released in January in the pages of the *Journal of the American Medical Association*.

Men receiving the anti-cholesterol drug cholestyramine experienced a total of 155 fatal and non-fatal heart attacks compared to 187 attacks experienced by men receiving a placebo, an NIH study found.

Investigators calculated that the drug produced a 24% reduction in fatal heart attacks and a 19% reduction in non-fatal heart attacks.

There were other indicators of reduced risk: persons receiving the drug experienced a 24% reduction in positive ECG, a 20% reduction in angina, and a 21% reduction in coronary bypass surgery, compared to persons receiving a placebo.

"These results have the potential to markedly reduce the large number of heart attack deaths presently experienced in this country," said C. Edward Davis, Ph.D., deputy director of the Lipid Research Clinic Program at the University of North Carolina in Chapel Hill. Coronary heart disease is responsible for more deaths in the U. S. than any other disease: one per minute, or more than half a million each year.

Of the 560,000 persons who die in the U. S. each year from heart attacks caused by atherosclerosis, an estimated 100,000 could be saved by the study's anti-cholesterol regimen, said Basil Rifkind, M.D., of the National Heart, Lung and Blood Institute in Washington, D. C.

The study was large and complex: 3,806 par-

ticipants visited 13 medical centers across the U. S., collectively making 193,000 clinic visits, generating over 1 million data forms, giving 341,000 blood samples, and undergoing 72,000 electrocardiograms.

Participants were men aged 35 to 59 who had blood cholesterol levels of at least 265 mg/dl, but no clinical evidence of disease. The group was divided evenly into two identical subsets: half received diet instructions (restricted to 400 mg of cholesterol per day) and a placebo while the other half received identical diet instructions and the drug cholestyramine. The study was double-blind. Each patient was followed at least seven years; a few were followed 10 years.

When both treatment groups were on diet only, there was an average 3.5% fall in total cholesterol and a 4.0% fall in LDL cholesterol for all persons. With initiation of drug therapy, differences in cholesterol levels between the two treatment groups became apparent during the first year and maintained that gap throughout the study. Differences in disease rates between the two groups became apparent by the third years and widened for the duration of the study.

It has long been accepted that high cholesterol levels are linked to elevated incidence of heart disease. However, it had never actually been proven that cholesterol reduction causes a parallel reduction of disease. This study shows that, as a rough rule of thumb, each 1% fall in cholesterol level is associated with a 2% reduction in the rate of heart attack.

The study's findings should be extended to women and younger men with high blood cholesterol levels, the researchers said. People with more modest cholesterol elevation could also benefit by cholesterol reduction, they say.

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### New Anti-Smoking Gum

The Food and Drug Administration has approved a chewing gum containing nicotine to help physically dependent cigarette smokers.

Available only by prescription, the gum Nicorette does not eliminate the desire for a cigarette but can provide a short-term alternative source of nicotine. FDA officials say Nicorette is not addictive, however.

According to FDA, smokers who have a high physical dependence on nicotine are the most likely to benefit from use of the gum. Such persons typically smoke more than 15 cigarettes a

day, prefer brands of cigarettes with amounts of nicotine greater than 0.9 milligrams each, and find the first cigarette in the morning the hardest to give up.

The gum should not be used by pregnant or nursing mothers, persons with certain heart conditions, persons with a disease that makes chewing difficult, and nonsmokers, according to FDA.

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### **Hospital Mergers Increase Costs**

Hospital mergers substantially increase Medicare and Medicaid costs, and federal rules governing accounting practices employed in such transactions should be tightened, according to Congress' General Accounting Office.

Anticipated for several months, the GAO findings focus on the Hospital Corporation of America's (HCA) acquisition of 54 hospitals from INA Corp. Earlier rumors about the upcoming report had led to a decline in HCA stock, but the new report has been revised. While it does estimate that the acquisition increased overall capital costs of the hospitals by about \$55 million and questions some HCA accounting techniques, it stops short of alleging the practices were illegal.

The report was requested by Rep. Willis Gradison (R-OH) of the House Ways and Means Committee, who said the present Medicare policy rewards "those who traffic in hospitals."

Although Medicare's new diagnosis related groups reimbursement will move hospitals away from cost-based reimbursement and pay a fixed price per case, the GAO findings are still relevant since capital costs will continue to be paid on a cost basis until 1986. Gradison said he will seek hearings in the Ways and Means Health Subcommittee and may introduce "remedial" legislation.

HCA officials responded they welcomed the hearings, had done nothing improper and don't expect any deterioration in HCA's "financial position."

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### **FTC Study Hits Ophthalmologists**

Opticians can fit contact lenses as well as ophthalmologists, at a lower cost to the consumer, according to a new Federal Trade Commission report. But the report has come under fire by ophthalmologists, who fear that its widespread acceptance could harm patients who need the medical supervision of a physician.

This finding, if accepted by FTC commissioners, could result in a loosening of restrictions

on the business practices of opticians. An earlier but similar FTC report on eye glasses and eye examinations has become the basis for a new FTC rulemaking.

The FTC study said there is little difference in the quality of contact lens fitting performed by opticians, optometrists, and ophthalmologists. The majority of 500 contact lens wearers from 18 cities, when interviewed and examined, were found to have healthy eyes and well-fitting contacts. Only a handful of patients had serious ocular abnormalities; of these, most did not relate to contact lens wear.

There was a wide range in costs, however. The average price for lenses, including examination, ranged from \$119 to \$183 for hard lenses and from \$150 to \$234 for soft lenses. The FTC said that ophthalmologists were the most expensive, commercial optometrists were the least expensive, and opticians and non-commercial optometrists charged prices somewhere in between.

"The findings call into question claims that restrictions on contact lens fitting by non-physicians are necessary to protect the public," according to the report. Such restrictions may increase costs to consumers by limiting the choices available to them and reducing competition in the marketplace, the report adds.

Some states forbid opticians to fit lenses, while others permit opticians to fit lenses only under the supervision of an ophthalmologist or optometrist. In the remaining states, the restrictions are fuzzy; state courts have reached differing opinions.

Physicians dispute both the methodology and the conclusions of the study. Only an ophthalmologist has the medical training to handle complications or hard-to-fit patients, says the American Academy of Ophthalmology. Since the FTC questioned only persons who were wearing contacts at the time, it may have overlooked difficult cases, such as persons with unusual eye structure or pathology. An eyeglass wearer reading the report has no way of knowing if he is a problem-free lens wearer or if he may encounter difficulties, says the physicians group.

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### **Pacemaker Abuses Hotline**

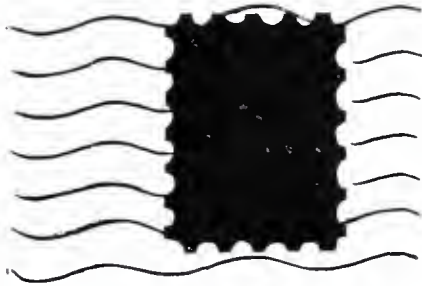
The Health Care Financing Administration, which has been accused by some Congressional committees of inadequately policing rebates and other abuses in the cardiac pacemaker industry, has notified its Medicare contractors that rebates,



kickbacks and other such industry practices may be subject to fines of \$25,000 or five year prison terms.

A form letter to be sent to all the pacemaker suppliers covered by the contractor was included

with the instructions. It suggests that these and other abuses can be reported on a fraud hotline maintained by the Health and Human Services Department's Office of Inspector General.



## LETTERS TO THE EDITOR

January 30, 1984  
Alfred Kahn, M.D., Editor  
1300 West 6th Street  
Little Rock, AR 72201

Dear Dr. Kahn:

The Executive Committee of the Professional Staff discussed the DRG validation statements, particularly the penalty clause, and found it very offensive. It was the consensus of the committee that a resolution be adopted to express our feelings on the matter and routed to the appropriate persons. If you find this of interest, you might want to publicize it as an official rebuttal.

James R. Rasch, M.D., F.A.C.P.  
President of the Baptist Medical  
Center Professional Staff  
10001 Lile Drive  
Little Rock, AR 72205



## RESOLUTIONS



WHEREAS, the Professional Staff of Baptist Medical Center in Little Rock, Arkansas, has the

responsibility to constitute a professional collegial body, providing for its members mutual education, consultation and professional support, to the end that patient care provided at the hospital is consistently maintained at that level of quality which is optimally achievable given the state of the healing arts and the available resources; and

WHEREAS, the Professional Staff has the responsibility to provide a means or method by which members of the staff can formulate recommendations for the hospital's policy-making and planning process, and through which such policies and plans are communicated to and observed by each member of the staff; therefore, be it

RESOLVED, that the Professional Staff find both the intent and phrasing of the DRG validation statements, and in particular the penalty clause, "Notice: Intentional misrepresentation, concealment, or falsification of this information may, in the case of a Medicare beneficiary, be punishable by imprisonment, fine or civil penalty." which appear on page 310 of the Federal Register/Vol. 49, No. 1, issued Tuesday, January 3, 1984, under the rules and regulations related to the prospective payment system, offensive to sign; and be it

RESOLVED, that the Professional Staff contends that it was not the intent of Congress to unnecessarily offend the intelligence of the medical profession by requiring signature of such a statement; and be it

RESOLVED, that this statement is viewed by the Professional Staff as a direct insult on the medical profession's intelligence, professional ethics, and credibility; and be it

RESOLVED FURTHER, that the Professional Staff of Baptist Medical Center requests that this unwarranted statement be stricken from the regulation.

Adopted: January 23, 1984

# keeping up

## Category 1 Continuing Medical Education Programs Available in Arkansas

### **SLEEP DISORDERS**

Presented by Edgar A. Lucas, Ph.D., *April 28*, UAMS Education II Building. Approximately 7 hours Category I credit. Registration fee \$50. No other information available.

### **CONVERTING ENZYME INHIBITION IN HEART FAILURE AND HYPERTENSION**

Presented by Dr. David C. Kem, *May 1*, 7:00 p.m., Baker Conference Room, Washington Regional Medical Center, Fayetteville. Sponsored by UAMS AHEC-NW. One hour Category I credit. No registration fee.

### **OPHTHALMOLOGY RESIDENT'S DAY**

Presented by Dr. Don Gass, *June 1*, registration

7:30, meeting 8:00, University of Arkansas for Medical Sciences. No other information available.

### **REVIEW: DIABETIC RETINOPATHY**

Presented by Richard Henry, M.D., *June 18*, 6:30 p.m., Dining Room, Memorial Hospital, North Little Rock. One hour Category I credit. No registration fee.

### **COMPARATIVE VASODILATOR THERAPY IN HEART FAILURE AND HYPERTENSION**

Presented by Lofty Basta, M.D., *June 19*, 7:30 p.m., Bella Vista Country Club, Bella Vista. Sponsored by UAMS AHEC-NW. One hour Category I credit. No registration fee.

### **RECURRING EDUCATION PROGRAMS**

Unless otherwise indicated, programs are for one to two hours Category I Credit.

#### **EL DORADO — AHEC-SOUTH ARKANSAS**

*Surgical Conference*, first, second and third Monday, 12:15 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.

*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.

*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.

*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

#### **FAYETTEVILLE — AHEC-NORTHWEST**

*Medicine Teaching Conference*, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

#### **FAYETTEVILLE — VA MEDICAL CENTER**

*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.

*Pathology Conference*, second Thursday, 3:00 p.m., Conference Room.

*Peer Exchange*, May: "Hematology"; June: "Pulmonary"

#### **FORT SMITH — AHEC**

*Cancer Conference*, each Tuesday, 12:00 noon, Fourth Floor Conference Room, Sparks Regional Medical Center.

#### **JONESBORO — AHEC-NORTHEAST**

*Interesting Case Conference*, second and fourth Tuesday, 12:00 Noon, St. Bernard's Dietary Conference Room.

*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.

*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pocahontas.

*Monthly Perinatal Conference*, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Weekly Medical Lecture Series*, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.

*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.

*Arkansas Methodist Hospital CME Conference*, last Friday, 7:00 a.m., AMH, Paragould.

#### **LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL**

*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Second Floor Classroom.

*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Second Floor Classroom.

*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Polly Thomas Dining Room.

*Infectious Disease Conference*, second Wednesday, 12:00 noon, Second Floor Classroom.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



## KEEPING UP

*Pediatric Pharmacology Conference*, third Wednesday, 12:00 noon, Second Floor Classroom.

*Problem Case Conference*, each Thursday, 12:00 noon, Second Floor Classroom.

*Primary Care Seminar and Case Presentation*, each Friday, 12:00 noon, Second Floor Classroom.

### **LITTLE ROCK — BAPTIST MEDICAL CENTER**

*Surgery Conference*, each Tuesday, 8:00 a.m. to 9:00 a.m., Conference Room #1.

*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.

*Grand Rounds*, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.

*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.

*Cardiopulmonary Resuscitation Course*, fourth Thursday, 6:00 p.m. to midnight, Shuffield Auditorium. Six hours Category

I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

### **LITTLE ROCK — ST. VINCENT INFIRMARY**

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.

*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E-159, Education Wing.

*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E-159, Education Wing.

*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory.

*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.

*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E-159, Education Wing.

*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Room S-1169, Laboratory.

### **LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES**

*Ophthalmology Morning Conference*, each Monday, Wednesday, and Friday, 7:30 a.m. ED II G 101a.

*Orthopaedic Fracture Conference*, each Tuesday, 7:00 a.m., ED II G1/135.

*Medicine Research Conference*, each Tuesday, 8:00 a.m., ED II 8/105.

*Orthopaedic Grand Rounds*, each Tuesday, 10:00 a.m., ED II G1/135.

*Medicine-Pathology Conference*, each Wednesday, 12:30 p.m., 3E06.

*GI-Radiology Conference*, each Wednesday, 8:00 a.m. Radiology Conference Room.

*Neuro-Radiology Case Conference*, each Wednesday, 4:00 p.m., M1/293.

*Medicine Grand Rounds*, each Thursday, 12:00 noon, Child Study Center Auditorium.

*GI-Problem Case Conference*, each Thursday, 3:30 p.m., 3D29.

*Ophthalmology Problems Case Conference*, each Thursday, 4:00 p.m., ACC3/150.

*Surgery Grand Rounds*, each Saturday, 9:00 a.m. to 12:00 noon, ED II G/131 a&b.

### **PINE BLUFF — AHEC**

*Sub-Specialty Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

*Obstetrics/Gynecology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

*Radiology Conference*, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

*Southeast Arkansas Medical Lecture Series*, third Tuesday, 6:30 p.m. Roswood Country Club (dinner meeting).

*Family Practice Conference*, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

*Surgery Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

*Internal Medicine Conference*, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.

*Pediatric Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

*Behavioral Science Conference*, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

*Chest Conference*, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

### **TEXARKANA — AHEC-SOUTHWEST**

*Tumor Conference*, first Wednesday, 7:00 a.m., St. Michael Hospital.

*Chest Conference*, third Wednesday, 12:30 p.m., St. Michael Hospital.



## PERSONAL AND NEWS ITEMS



### **DR. JONES RECEIVES AWARD**

Dr. William N. Jones of Little Rock was recently presented the Silver Beaver Award by the Quapaw Council of the Boy Scouts of America. Dr. Jones has been involved in Scouting for thirty-three years; the past twenty-five years has been

spent in adult leadership activities.

### **DR. CAMPOS IN HEBER SPRINGS**

Dr. Amador C. Campos has located in Heber Springs for the practice of General Surgery. His office address is 821 West Main Street.

**DR. NETTLESHIP**

Dr. Mae Nettleship assisted the fifth and sixth grade students at Jefferson Grade School in Fayetteville with the dissection of a beef lung as part of the Berkeley Project.

**DR. HUGHES CHIEF OF STAFF**

Dr. Milton Hughes of Pine Bluff has been elected chief of staff at Jefferson Regional Medical Center.

**DR. MOSS HONORED**

Dr. Swan B. Moss received recognition from the First National Bank of McGehee for forty-one years of service to the community. Dr. Moss is a member of the Board of Directors of the Bank.

**DR. BECKSTROM IN COTTON PLANT**

Dr. E. G. Beckstrom has joined the Cotton Plant Medical Clinic. Dr. Beckstrom is a native of North Little Rock.

**DR. RASCH CHIEF**

Dr. James R. Rasch of Little Rock has been elected chief of staff of Baptist Medical Center.

**DR. HUDSON DAY**

The 23rd of February was the birthday of the Dr. William A. Hudson of Jasper and the day was proclaimed "The Dr. William A. Hudson Day" throughout Newton County. Dr. Hudson received a plaque from the Newton County Medical Center. Dr. Hudson has practiced medicine for more than six decades.

**DR. MORRIS RETIRES**

Dr. Harold J. Morris of Pine Bluff retired from the practice of medicine in February. Dr. Morris practiced two years in Little Rock and forty years in Pine Bluff.

**DR. GOSSER CHIEF**

Dr. Bob Gosser is serving as chief of staff at Memorial Hospital in North Little Rock. Other officers are Dr. Eric Fraser, secretary; Dr. David Bevans, chief-elect; Dr. Ben Wilson, chief of medicine; Dr. Robert G. Vogel, chief of Surgery; Dr. Donald Laurenzana, chief of Family Practice; Dr. Douglas Young, chief of Pathology; Dr. Glenn V. Dalrymple, chief of Radiology; Dr. C. Dale Fuller, chairman of the Council on Quality Assurance; Dr. T. J. Smith, chief of patient care; and Dr. Michael T. Pilcher, chief of hospital affairs.

**DR. STECKER SPEAKS**

Dr. Rhetta Stecker of Hot Springs discussed "How to Save Money on Your Doctor Bills" at a recent meeting held at the Bonnerdale Fire Station.

**CORNING GAINS PHYSICIANS**

Drs. Romeo Sembrano and Elnora Romano-Sembrano have begun practice at the Corning Family Practice Clinic. Dr. Romeo Sembrano is a Family Physician and Dr. Elnora Romano-Sembrano is a Pediatrician.

**DR. BAKER DIRECTOR**

Dr. Robert Baker of Mountain Home has been named medical director for Hospice of the Ozarks and Community Home Health.

**DR. BURTON SPEAKS**

Dr. Bruce Burton of Malvern addressed the Malvern Civitan Club during Clergy Week. His topic was "Medical Ethics as Applied to the Clergy."

**DR. MILLER PRESIDENT**

Dr. Robert D. Miller, Jr., of Helena has been elected president of the Arkansas State Board of Health and chairman of the Board's Executive Committee.

**DR. BRASHEARS ON BOARD**

Dr. Larry Brashears has been named to the board of directors of the Malvern National Bank.

**DR. ROE IN MALVERN**

Dr. Rodney A. Roe has joined Dr. Robert White at 1004 Dyer in Malvern.

**DR. SALTZMAN HONORED**

Dr. Ben Saltzman of Little Rock has been awarded the Rotary Foundation's Citation for Meritorious Service. Dr. Saltzman was honored for his efforts in promoting the ideals of the Rotary Foundation.

**DR. WILSON SPEAKS**

Dr. Steve Wilson of Fayetteville was guest speaker for a lecture series for women sponsored by the Women's Auxiliary of Turner Street Baptist Church in Springdale. Dr. Wilson discussed "The Physical Aspects of Depression."

**MEMORIAL FUND ESTABLISHED**

The American Physicians Insurance Exchange of Dallas has contributed \$10,000 to the University of Arkansas Medical School Foundation in memorial tribute to the late Dr. Elvin Shuffield. The grant will fund an annual Shuffield Leadership Award. Dr. Shuffield was serving on the board of directors of American Physicians Insurance Exchange at the time of his death.

**DR. BRAINARD SPEAKS**

Dr. Jay O. Brainard recently spoke to the Emergency Department Nurses Association meeting at St. Vincent Infirmary in Little Rock. The topic



of his talk was "Common Emergency Room Ocular Injuries."

#### **DR. HENKER INSTALLED**

Dr. Fred Henker of Little Rock was installed as chairman of the section on Psychiatry, Neurology and Neurosurgery of the Southern Medical Association at the annual meeting held in Baltimore.

#### **DR. FERRIS APPOINTED**

Dr. Ernest Ferris of Little Rock was recently appointed to the Steering Committee of the American College of Chest Physicians.

#### **DR. RAINEY IN SPARKMAN**

Dr. Don M. Rainey, formerly of Walnut Ridge, has begun practice in Sparkman.

#### **PHYSICIANS DONATE TO MEDICAL RECORDS PROGRAM**

Donations made by the medical staff of St. Mary's Hospital and Millard-Henry Clinic in Russellville have enabled Arkansas Tech University to purchase microcomputers for its medical records program. Dr. Joe Crumpler, president of the Millard-Henry Professional Association, and Dr. James Kolb, chief of staff at St. Mary's Hospital, made the presentation.

#### **INTERIM MEDICAL DIRECTOR**

Dr. M. Bruce Sanderson of Little Rock has been named interim Medical Director of the Arkansas Rehabilitation Institute.

#### **DR. DAVIS LOCATES**

Dr. David A. Davis has joined Dr. R. W. Dow at 3000 Market in Fayetteville for the practice of Neurology.

#### **DR. McAULEY HONORED**

Dr. John McAuley of Clarksville was named the February Business Person of the Month by Phi Beta Lambda at The College of the Ozarks.

#### **DR. REESE NAMED TO BOARD**

Dr. Michael Reese of Rogers has been named to the governing board of St. Mary-Rogers Memorial Hospital. Also serving on the board is Dr. William E. Jennings of Rogers.

#### **DR. DITSCH HONORED**

Dr. Craig Ditsch of Stamps was recently presented a plaque in appreciation of his services as a team physician for the local school.

#### **BENEFIT BASS TOURNAMENT**

Jerry McKinnis, host of "Fishin' Hole" has announced plans for a bass tournament to benefit the Central Arkansas Radiation Therapy Institute. The tournament is scheduled for Sunday, May 20, at Mountain Harbour Resort on Lake Resort. There is a \$35 registration fee. First prize for the tournament is \$3,000 plus a Ranger boat and trailer. For more information and registration forms, write to CARTI Bass Benefit, Post Office Box 5636, Little Rock 72215 or telephone 501-666-1677.

#### **DR. PAINE ON BOARD**

Dr. W. T. Paine of Helena has been named to the newly established advisory board of the Merchants and Farmers Bank of West Helena.

#### **DR. SLAVEN CHIEF**

Dr. John Slaven of Little Rock has been elected chief of staff at Arkansas Rehabilitation Institute in Little Rock. Dr. Robert D. Nelson is vice chief. Other officers are Dr. Warren Boop as secretary; Dr. Nancy Rector as chief-elect; Dr. Henry A. Lile as Radiology director; and Dr. Joseph P. Ward as Anesthesiology chief.

#### **DR. BRANCH**

Dr. James W. Branch of Hope has been awarded a plaque from the American Academy of Family Physicians honoring his thirty-two years of service to family medicine.

#### **COTTER GAINS PHYSICIANS**

Drs. Miguel Canales and Clifford C. Roosa have joined the Gas-Cot Medical Clinic in Cotter.

#### **DR. CITY SPEAKS**

Dr. Jim City of Searcy recently spoke on "VD—Its Effect Now and for Future Generations" at a meeting of the Institute of American Ideals.

#### **DR. McCOY ELECTED CHIEF**

Dr. James R. McCoy of Searcy has been elected chief of staff of the White County Memorial Hospital. Dr. William White is the outgoing chief.

#### **TEAM MEMBERS**

Physicians of Boone County have donated \$250 to the Boone County Wellness Task Force. The physicians lost to lawyers in an annual volleyball game. Drs. Mahlon Maris, Tom Hoberock and Don Vowell were members of the physician team.



## NEW MEMBERS

### **DR. WILLIAM K. FLAKE**

Dr. Flake has joined the Carroll County Medical Society. He was born in Phoenix, Arizona.

Dr. Flake received a Bachelor of Arts degree from the University of Arizona in 1967. He is a 1971 graduate of the Baylor College of Medicine in Houston. His internship was with John Peter Smith Hospital in Fort Worth, Texas.

Dr. Flake was a member of the United States Air Force from 1972 to 1974. He received one year of Family Practice residency training at John Peter Smith Hospital. From 1975 to 1976, Dr. Flake practiced Emergency Room medicine at St. Joseph's Hospital in Fort Worth.

He served a Surgical Residency from 1976 to 1980 with the Phoenix Integrated Surgical Residency in Arizona. He was associated with the Veterans Administration Medical Center in Arizona for a year.

Dr. Flake, a board certified General Surgeon, is a member of the Candidate Group of the American College of Surgeons.

Dr. Flake moved to Berryville in 1981. He practices General Surgery at 207 Carter in Berryville.

### **DR. HARVEY P. RUBIN**

Dr. Rubin, a native of Waterbury, Connecticut, is a new member of the Craighead-Poinsett County Medical Society.

He received a Bachelor of Arts degree in 1954 from the University of Connecticut. He is a 1958 graduate of the University of Vermont College of Medicine. After an internship with the Fourth Surgical Division of the New York University Bellevue Medical Center, Dr. Rubin served a residency at Montefiore Hospital and Medical Center, Bronx, New York.

Dr. Rubin served with the United States Navy Medical Corps from 1963 to 1965. From 1965 to 1966, he was a senior resident of Thoracic and Cardiovascular Surgery at the University of Texas Southwestern Medical School in Dallas.

He was in private practice in Hartford, Connecticut, from 1966 to 1971. From March to October of 1971, he was a fellow in Cardiovascular Surgery at the Texas Heart Institute.

Dr. Rubin practiced in Kansas City, Missouri, from 1971 to 1983. While in Kansas City, he served as president of the Kansas City Surgical Society. He moved to Jonesboro in 1983.

Dr. Rubin is certified by the American Board of Surgery and the American Board of Thoracic Surgery.

Dr. Rubin specializes in cardiac, thoracic and vascular surgery at 303 East Matthews in Jonesboro.

### **DR. DWIGHT M. WILLIAMS**

Dr. Williams, a native of Paragould, has joined the Greene-Clay County Medical Society.

He is a 1975 graduate of the Arkansas State University and a 1980 graduate of the University of Arkansas College of Medicine. He completed a Family Practice residency with the Area Health Education Center at St. Bernard's Regional Medical Center in Jonesboro.

Dr. Williams is board certified in Family Practice.

His office for the practice of Family Medicine is located at #1 Medical Drive in Paragould.

### **DR. J. BRAD CARTER**

Dr. Carter, a new member of the Pope County Medical Society, was born in Paris.

His pre-medical education was with the University of Arkansas at Fayetteville and Little Rock. He was graduated in 1971. Dr. Carter is a 1979 graduate of the University of Arkansas College of Medicine. His internship and residency were with the University of Kansas Medical Center in Kansas City. Dr. Carter is a Junior Fellow of the American College of Obstetricians and Gynecologists.

Dr. Carter specializes in Obstetrics and Gynecology at 200 North Quannah in Russellville.

### **DR. DAVID L. ROGERS**

Dr. Rogers is a new member of the Washington County Medical Society. He is a 1971 graduate of Hendrix College in Conway and a 1976 graduate of the University of Arkansas College of Medicine.

His Family Practice residency was with the Area Health Education Center—Northwest in Fayetteville. He is certified by the American Board of Family Physicians.

Dr. Rogers has been associated with the Fayetteville Family Practice Clinic at 767 West North in Fayetteville since 1979.



**DR. JOEL D. CARVER**

Dr. Carver, another new member of the Washington County Medical Society, is a native of Mena.

He was graduated from the University of Arkansas in Fayetteville in 1974 and from the University of Arkansas College of Medicine in 1978. Dr. Carver served his internship, an Internal Medicine residency and a Cardiology Fellowship with the University Hospital at Little Rock. From 1981 to 1983, Dr. Carver also served as an instructor in Medicine at the University. He is certified in Internal Medicine.

Dr. Carver specializes in Cardiology at 708 Quandt in Springdale.

**DR. DANIEL S. DAVIDSON**

Dr. Davidson has joined the White County Medical Society. He was born in Los Angeles, California.

Dr. Davidson is a 1976 graduate of Harding University in Searcy and a 1980 graduate of the University of Arkansas College of Medicine. He completed a Family Practice residency with the Area Health Education Center in Fort Smith.

Dr. Davidson, a board certified Family Physician, has been associated with the Searcy Medical Center at 2900 Hawkins Drive in Searcy since June 1983.

**THINGS****TO  
COME****May 19-20**

*"Magnetic Resonance Imaging of the Nervous System and Selected Topics"* Arkansas Chapter, American College of Radiology. Fairfield Bay. Eugene F. Binet, M.D., Director; Edgardo Angtuaco, M.D., Co-Director. Guest Faculty: Steven Harms, M.D., Director of Magnetic Resonance at Baylor College of Medicine in Dallas, and Kenneth R. Maravilla, M.D., Associate Professor, Department of Radiology at Southwestern Medical School at Dallas. For further information, contact Peggy Buice, Department of Radiology, University of Arkansas College of Medicine, 4301 West Markham, Little Rock 72205 or telephone 501-661-5740.

**June 1-2**

*"Topics in Cardiovascular Diseases: Cardiac Arrhythmias."* American Heart Association —

Maryland Affiliate, Inc. Hyatt Regency Baltimore, Maryland. 9 hours Category I AMA. Registration fee \$150; Residents, Fellows and Nurses \$50. For further information, contact Michaeline R. Silverstein, AHA-Maryland Affiliate, Inc., 415 North Charles Street, Baltimore, Maryland 21201; telephone 301-685-7074.

**June 8-10**

*"Providing Quality Medical Care in Your Practice."* Southern Medical Association. Sawgrass Resort, Ponte Vedra Beach, Florida. Registration: \$220 for SMA members; \$275 for nonmembers. For further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; telephone 205-323-4400.

**June 14-15**

*"Malpractice Prophylaxis."* Southern Medical Association. Peabody Hotel, Memphis, Tennessee. Registration: \$220 for SMA members; \$275 for nonmembers. For further information, contact Jeanette Stone, Southern Medical Association, Post Office Box 2446, Birmingham, Alabama 35201; telephone 205-323-4400.



# HOLT-KROCK CLINIC

1500 Dodson Avenue

Telephone 782-2071

Fort Smith, Arkansas

## ANESTHESIOLOGY

R. C. Goodman, M.D.\*  
Don W. Chamblin, M.D.  
Edwin L. Coffman, M.D.\*  
N. F. Westermann, M.D.  
Robert D. Fisher, M.D.\*  
Jerry O. Lenington, M.D.\*  
Robert L. Chester, M.D.\*  
Robert A. Robertson, M.D.

## CARDIOLOGY

Keith A. Klopfenstein, M.D., A.C.P.\*  
John R. Pope, M.D., F.A.C.C.\*  
Thomas Williams, M.D., A.C.P., F.A.C.C.\*  
John M. Deaton, M.D.\*

## ADULT/PEDIATRIC

J. Campbell Gilliland, M.D., F.A.A.P., F.A.C.C.\*

## FAMILY PRACTICE

### CRAWFORD COUNTY

L. R. Darden, M.D.\*  
Millard C. Edds, M.D.  
L. Gordon Sasser, III, M.D.  
F. E. Shearer, M.D.  
A. L. Travis, M.D.\*  
D. Bart Sills, M.D.\*  
(Alma/Mountainburg)

### FORT SMITH

Kemal E. Kutait, M.D.\*  
Ken Lilly, M.D.\*  
Ralph N. Ingram, M.D.\*  
Lawrence G. Pillstrom, M.D.  
R. Wendell Ross, M.D.\*

## DERMATOLOGY

John E. Lewis, M.D.\*

## GASTROENTEROLOGY

Hassan Masri, M.D.\*  
Robert C. Barker, M.D.\*

## HEMATOLOGY/ONCOLOGY

William F. Turner, M.D., A.C.P.\*  
Dennis Fecher, M.D.\*

## INTERNAL MEDICINE

Art B. Martin, M.D., A.C.P.  
L. O. Lambiotte, M.D., F.A.C.P.\*  
D. J. McMinimy, M.D., A.C.P.\*  
John L. Kientz, M.D., A.C.P.  
David Staggs, M.D., A.C.P.\*  
Edwin Glassell, M.D., A.C.P.\*

## NEPHROLOGY

Michael D. Coleman, M.D.\*  
Dana P. Rabideau, M.D.\*

## NEUROLOGY

William L. Griggs, M.D., F.A.A.N.\*†  
Charles G. Reul, M.D.\*†  
Ernest E. Serrano, M.D., F.A.C.P.\*†  
David J. Marzewski, M.D.

## NEUROSURGERY

William G. Lockhart, M.D., F.A.C.S.\*  
Albert MacDade, M.D., F.A.C.S.\*  
Michael Dulligan, M.D.\*

## OBSTETRICS AND GYNECOLOGY

Joe N. Mason, M.D., F.A.C.O.G.\*  
William B. Tate, M.D., F.A.C.O.G.\*  
Jimmie G. Atkins, M.D., F.A.C.O.G.\*

## OPHTHALMOLOGY

Samuel Z. Faier, M.D.\*

## ORTHOPAEDICS

W. E. Knight, M.D., F.A.C.S.\*  
Alfred B. Hathcock, M.D., F.A.C.S.\*  
Peter J. Irwin, M.D., F.A.C.S.\*  
James H. Buie, M.D., F.A.C.S.\*  
James W. Long, M.D.\*  
Marvin E. Mumme, M.D.\*  
William Sherrill, M.D.\*  
Douglas W. Parker, Jr., M.D.

## PEDIATRICS

Louay Nassri, M.D., F.A.A.P.\*  
Gilbert N. Jones, III, M.D.

## PLASTIC AND

## RECONSTRUCTIVE SURGERY

Eugene F. Still, M.D., F.A.C.S.\*  
R. Cole Goodman, M.D., F.A.C.S.\*

## PROCTOLOGY

R. E. Criger, M.D., F.A.C.S.

## PSYCHIATRY

Joe H. Dorzab, M.D.\*  
A. Pat Chambers, M.D.\*  
D. James Booth, A.C.S.W., R.M.S.W.

## PULMONARY MEDICINE

David R. Nichols, M.D., A.C.P.\*  
W. Don Heard, M.D.\*

## RADIATION ONCOLOGY

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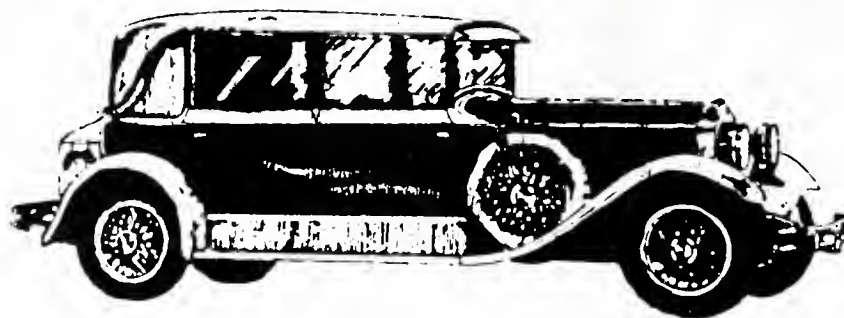


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# Evaluating Operative Risk in the Geriatric Intraocular Lens Implant Patient

Norris L. Newton, Jr., M.S. III, and Dola S. Thompson, M.D.\*

It is estimated that thirty-three percent (33%) of medicare beneficiaries undergo surgical procedures annually. Cataract extraction heads the list of operations. Of course medicare has provided health care opportunities. However, a further increase in cataract surgery appears to result from the improved results attainable with modern surgical and anesthetic techniques.<sup>1-4</sup>

Arteriosclerosis, emphysema, malnutrition, dementia, anemia, low blood volume, and poor renal function are characteristic of old age. Diagnosis of one or the other is of little practical value in assessing surgical risk. Functional decay of organ systems is known to proceed at a rate of about 0.8 to 0.9 percent per year after the age of thirty years. Alfred Worcester is credited with stating "There are no diseases peculiar to old age and very few from which it is exempt."<sup>3</sup>

Some ophthalmologists favor general anesthesia in the effort to reduce dreaded ocular complications such as vitreous loss. It is for this and related reasons that surgeons such as Cornelius Binkhorst and others have subscribed to general anesthesia for intraocular lens implantation. On the other hand, many ophthalmologists recommend regional anesthesia only, fearing that general anesthesia is unavoidably fraught with hazard in the elderly.

Figures on mortality and morbidity taken from a general surgical series on elderly patients appear to be quite high when compared to shorter less extensive elective procedures. A recent report showed a 4.88% death rate from all operations in the over sixty-five (65) age group (9). Mortality and morbidity figures are not readily available, for example, in the case of lens implantation procedures. This non-concurrent study was undertaken to provide quantification to the risk varia-

bles in such cases as compared to a group of general surgical cases.<sup>10</sup>

## Patients and Methods

One thousand one (1001) consecutive intraocular lens implantation patients receiving general anesthesia were surveyed. A single surgeon (N. Newton) used the same method of preoperative and postoperative evaluation. Two separate hospitals were used.† All patients received internal medical consultation to assess operative risk in all cases. Minimum workup included complete history and physical, CBC, UA, Chem 12 profile, chest x-ray, pulmonary function studies, arterial blood gases and ECG. Echocardiography and stress testing were often utilized in equivocal cases. The internal medical consultation and the anesthesiologist evaluation were on the chart prior to each operation. It was the practice of the internist to list each patient as a good (Class I), satisfactory (Class II), fair (Class III), or poor (Class IV) risk category for descriptive purposes. These categories are intended to correspond to the Dripps-American Society of Anesthesiology (ASA) categories for preoperative assessment of surgical risk.<sup>5-11</sup> Each case was reviewed from this standpoint with respect to postoperative morbidity or mortality. Figure 1 shows the Dripps-ASA classification.

**FIGURE 1**  
**A.S.A. CLASSIFICATION**

Class	Description
Class I	A normal healthy patient.
Class II	A patient with mild systemic disease.
Class III	A patient with severe systemic disease that is not incapacitating.
Class IV	A patient with an incapacitating systemic disease that is a constant threat to life.
Class V	A moribund patient who is not expected to survive for 24 hours with or without an operation.

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Goldman's multifactorial index of nine cardiac risk variables was applied per review in each case and correlated with postoperative cardiac crisis (life threatening complications) or death.<sup>7</sup> Computation of the cardiac risk was carried out as shown in Figure 2.

Three separate anesthesiologists provided anesthesia services for patients in this series. Two of them used basically the same type of anesthesia on 629 cases: short acting muscle relaxant, sleep dose of pentothal, short acting narcotic, ethrane, nitrous oxide and oxygen with open system. One anesthesiologist used a modified "Liverpool" type of anesthesia on 372 cases which included: long acting muscle relaxant with reversal, and stronger narcotic dosages (Fentanyl) for analgesia with subsequent reversal, hyperventilation with nitrous oxide and oxygen, and use of volume expanders (fluids plus albumin) in most such cases.

Of the 1001 patients reviewed, many abnormal characteristics were identified. Patient characteristics and diseases were documented. Fifty-six

(56) separate disease or disease characteristics were evaluated. Some of the more interesting physical characteristics are listed in decreasing order of frequency and include: hypertension (210), heart murmurs (211), diabetes (196), EKG or other evidence of ischemic heart disease (180), dyspnea (164), history of prior myocardial infarction (110), atypical or possible angina (51), typical angina (42), wet rales (18), third heart sound (2), and jugular vein distention (5). Electrocardiographic findings were noted as follows: ischemic ST wave changes (71), T wave inversion (81), frequent PVC's (39), atrial fibrillation (34), left bundle hemiblock (17). It was found that a variety of medications were routine for many of the patients and included: digitalis (92), nitrates or furosemide (103), and diuretics (210).

The preoperative anesthesia assessment identified several persons who had either treatable or non-treatable advanced life threatening disease. In the non-treatable category, two cases of lung cancer were identified, and one abdominal an-

**FIGURE 2**  
**COMPUTATION OF THE CARDIAC RISK INDEX (GOLDMAN)**

Criteria*	Multivariate Discriminant Function Coefficient	"Points"
1. History:		
(a) Age > 70 years	0.191	5
(b) MI in previous 6 mo.	0.384	10
2. Physical examination:		
(a) S3 Gallop or JVD	0.451	11
(b) Important VAS	0.119	3
3. Electrocardiogram:		
(a) Rhythm other than sinus or PAC's on last preop. ECG	0.283	7
(b) > 5 PVC's/min. documented at any time before operation	0.278	7
4. General status:		
PO <sub>2</sub> < 60 or PCO <sub>2</sub> > 50 mm/Hg.		
K < 3.0 or HCO <sub>3</sub> < 20 meq/liter.		
BUN > 50 or CR > 3.0 mg/dl.		
Abnormal SGOT, signs of chronic liver disease or patient bed ridden from noncardiac causes	0.132	3
5. Operation:		
(a) Intraperitoneal, intrathoracic or aortic operation	0.123	3
(b) Emergency operation	0.167	4
Total possible		53 points

\* (MI) denotes myocardial infarction, (JVD) jugular-vein distention, (VAS) valvular aortic stenosis, (PAC) premature atrial contractions, (ECG) electrocardiogram, (PVC) premature ventricular contractions, (PO<sub>2</sub>) partial pressure of oxygen, (PCO<sub>2</sub>) partial pressures of carbon dioxide, (K) potassium, (HCO<sub>3</sub>) bicarbonate, (BUN) blood urea nitrogen, (CR) creatinine, and (SGOT) serum glutamic oxalacetic transaminase.



eurysm involving the renal arteries were found. Those treatable cases identified and referred for other surgery prior to elective cataract surgery included six cases of ischemic heart disease, five cases of advanced carotid obstructive disease, and four cases needing a permanent pacemaker. One case of subaortic hypertrophic aortic stenosis was discharged. Mild to moderately severe adult onset diabetics were included in the series. Several unusual and severe diseases were identified, and included such entities as primary hyperparathyroidism, Paget's disease, lymphoma and leukemia.

Results

One thousand one (1001) geriatric patients

underwent intraocular lens implantation surgery under general anesthesia. No patient suffered intraoperative or perioperative death. Nineteen patients experienced one or more non-fatal but life threatening problems. Ventricular tachycardia was documented in eight instances. Hypertensive crisis was experienced in twelve instances. Pulmonary edema was detected in two cases. No documented cases of myocardial infarction developed, but postoperative ischemic ECG changes with angina developed in eleven cases.

Referencing Goldman's nine significant risk variables. Table I shows the univariant relation between the variables reported by Goldman as compared to this series.

TABLE I  
UNIVARIANT RELATIONS BETWEEN THE INDEPENDENT RISK VARIABLE  
AND DEVELOPMENT OF CARDIAC COMPLICATIONS

Risk Factors — Newton Goldman			Cardiac Complications		Newton Goldman		Newton Goldman	
			Life-Threatening But Nonfatal*		Cardiac Deaths† —			
1.	3rd heart sound or jugular vein distention							
	No	994	966		17 (2) ++	34 (3.5) ++	0 (0)	12 (1.2)
	Yes	7	35		2 (29)	5 (14)	0 (0)	7 (20)
2.	Recent infarction							
	No	1001	979		19 (<3)	36 (3.7)	0 (0)	14 (1.4)
	Yes	0	22		0 (0)	3 (14)	0 (0)	5 (2.3)
3.	Rhythm other than sinus or PAC on last ECG							
	No	912	889		14 (<2)	28 (3)	0 (0)	9 (1)
	Yes	89	112		5 (6)	11 (10)	0 (0)	10 (9)
4.	> 5 P.V.C./min. at any time							
	No	962	957		15 (<2)	32 (3.3)	0 (0)	13 (1.4)
	Yes	39	44		4 (10)	7 (16)	0 (0)	6 (14)
5.	Intraperitoneal, intrathoracic or aortic operation							
	No	1001	564		19 (2)	7 (1.2)	0 (0)	8 (1.4)
	Yes	0	437		0 (0)	32 (7)	0 (0)	11 (2.5)
6.	Age over 70 years							
	No	393	677		7 (2)	20 (3)	0 (0)	3 (0.4)
	Yes	608	324		12 (2)	19 (6)	0 (0)	16 (5)
7.	Important valvular aortic stenosis							
	No	968	978		19 (2)	38 (4)	0 (0)	16 (1.6)
	Yes	33	23		0 (0)	1 (4)	0 (0)	3 (13)
8.	Emergency operation							
	No	1001	804		19 (2)	23 (3)	0 (0)	9 (1)
	Yes	0	197		0 (0)	16 (8)	0 (0)	10 (5)
9.	Poor general medical condition							
	No	934	639		7 (<1)	14 (2)	0 (0)	6 (1)
	Yes	67	362		12 (18)	25 (7)	0 (0)	13 (4)

\*Documented intraoperative or postoperative myocardial infarction, pulmonary edema or ventricular tachycardia or hypertensive crisis without progression to cardiac death (39 patients of Goldman and 19 patients of Newton).  
 †19 patients.  
 ++Figures in parentheses denotes %.

Patients in this series were classified in accordance with the functional Dripps-American Society of Anesthesiology Classification. Table II shows the correlation between the A.S.A. classification and the post anesthetic outcomes in this series.

Table III shows the correlation between the Cardiac Risk Index (Goldman) and the post anesthetic outcomes in this series.

The observed frequency of no or only minor complications in the Newton series using the Dripps-American Society of Anesthesiology classification was compared to the expected frequency

using the Goldman et al. experience. Table IV shows the chi square analysis.

The observed frequency of no or only minor complications in the Newton series, using the Cardiac Risk Index was compared to the expected frequency using the Goldman et al. experience. Table V shows the chi square analysis.

In our review we were not able to impose a standard diagnostic evaluation on all ejection systolic murmurs. Many cases did receive echocardiography in an effort to quantitate the degree of aortic stenosis. In general, we defined a systolic

TABLE II  
CORRELATION BETWEEN PREOPERATIVE DRIPPS-AMERICAN SOCIETY OF ANESTHESIOLOGY CLASSIFICATION\* AND CARDIAC COMPLICATIONS

Classification N = 1001	No or Only Minor Complications	Life Threatening Complications N = 19	Cardiac Deaths N = 0
I (N = 72)	71 (99) ++	1	0
II (N = 551)	548 (99)	3 (<1)	0
III (N = 361)	349 (97)	12 (3)	0
IV (N = 17)	14 (82)	3 (18)	0

\*See methods for definition of classes.  
++ Figures in parentheses denotes %.

TABLE III  
CARDIAC RISK INDEX

Class	Point Total	No or Only Minor Complications	Life Threatening Complications* N = 19	Cardiac Deaths N = 0
I (N = 451)	0-5	450 (>99) +	1 (<1)	0 (0)
II (N = 245)	6-12	239 (99)	6 (2)	0 (0)
III (N = 303)	13-25	292 (97)	11 (4)	0 (0)
IV (N = 2)	>26	1 (50)	1 (50)	0 (0)

\*Documented intraoperative or postoperative myocardial infarction, pulmonary edema, or ventricular tachycardia or hypertensive crisis without progression to cardiac death.  
++ Figures in parentheses denotes %.

TABLE IV

Observed Frequency of No or Only Minor Complications (Newton) Using the Dripps American Surgical Association Experience Classification		Expected Frequency of No or Only Minor Complications Using the Goldman et. al.	
I (N = 72)	71	72	
II (N = 551)	548	537.5	
III (N = 361)	349	337.54	
IV (N = 17)	14	13.21	

Chi square analysis: (observed frequency: expected frequency).  
X<sup>2</sup> = .6553

Using the Dripps-American Society of Anesthesia classification the expected frequency of no or only minor complications is almost identical to the observed frequency. There is no significant difference using the CHI square analysis.



ejection murmur of at least Grade 2 of 6 accompanied by carotid artery and cardiac findings consistent with aortic stenosis as being "probably important aortic stenosis". Central venous pressure was estimated by the internist and anesthesiologist simply at the bedside. Premature ventricular contractions greater than five per minute was determined by means of history review, medical record, and preoperative ECG and preoperative ECG monitoring just prior to surgery. We reviewed all available patient records to corroborate historical and examination findings and laboratory data preoperatively and postoperatively. Except for ECG monitoring in recovery or ICU, and for symptomatic patients, postoperative ECG's were not routinely obtained. ECG tracings and cardiac enzymes were obtained in all cases developing postoperative ECG ischemia or angina. Goldman's statistically insignificant variables were noted by way of review and were judgementally included in the internal medical subjective categorization or Dripps-ASA assessment. These mathematically neglected variables include: hyperlipidemia, smoking, diabetes, hypertension, peripheral atherosclerotic vascular disease, stable angina, old myocardial infarction by history or electrocardiography, ST-segment or T wave changes, cardiomegaly, mitral valve disease, bundle branch block, and congestive heart failure in the absence of third heart sound or jugular vein distention. While few in number, sick sinus syndrome, idiopathic hypertrophic aortic stenosis and Class IV angina cases were likewise culled out of the study by internal medical preoperative evaluation. Cases found to have significant

carotid bruits with symptoms of cerebral ischemia were likewise referred for surgical treatment. Several previously undiagnosed vascular problems were picked up in the study and judged to have a surgically treatable vascular disease. A number of these cases received one of several operations including carotid endarterectomy, resection of aneurysms, coronary artery bypass, and pacemakers. Most were then readmitted for lens implantation following treatment with improvement in anesthetic risk classification.

Of the twelve patients experiencing postoperative hypertensive crisis, with blood pressures of 220/110 or over and generally with tachycardia, seven of these occurred in the group receiving the modified Liverpool type of anesthesia.

Aside from cardiovascular life threatening complications, several other statistically insignificant non-cardiac complications arose: one case of post operative bronchopneumonia, one case of acute cholecystitis, and one severe antibiotic allergic reaction were documented.

Discussion

The subjective Dripps-American Society of Anesthesiology physical status classification and the Goldman Cardiac Risk Index were compared as predictability indicators for life threatening complications and death in a series of 1001 intraocular lens implantation operations compared to a similar series of general surgical cases. No deaths and fewer life threatening emergencies, nineteen (19), were experienced in the elective eye surgery (IOL cases of Newton) group as compared to the general surgical group of Goldman et al, or thirty-nine (39) cases.

TABLE V  
COMPARISON OF NEWTON EXPERIENCE WITH GOLDMAN ET. AL.

Observed Frequency of No or Only Minor Complications Using Cardiac Risk Index		Expected Frequency of No or Only Minor Complications Using Goldman Experience
CARDIAC RISK INDEX		
I. (N = 451)	450	445.81
II. (N = 245)	239	226.84
III. (N = 303)	292	199.77
IV. (N = 2)	1*	.44*

\*Too few cases to be valid.  
Chi square analysis: (observed frequency: expected frequency).  
 $X^2 = 43.2720$   
 $P = < .001$

Using the cardiac risk index as computed by Goldman et. al. the observed frequency of no or only minor complication was higher for all classes of Newton patients. The difference is significant ( $P < .001$ ) however, most all of the difference seems to be concentrated in Class III.

Univariant relations between the independent risk variables of Goldman's general surgical group with respect to the development of cardiac complication rates are compared to the elective geriatric IOL cases of Newton. Each series was exact as to size, 1001 cases each. The average age in the eye group was somewhat older than the general surgical group, 70.3 years compared to 64.5 years in the Goldman series. The groups differed significantly in several important respects. By the Cardiac Risk Index analysis, only two Class IV patients were identified in the IOL group compared to eighteen Class IV patients in the general surgical group. Three risk categories were eliminated altogether in the IOL group compared to the surgical group (i.e. (1) myocardial infarction in preceeding six months, (2) intraperitoneal or intrathoracic or aortic operation, and (3) emergency operation). The Cardiac Risk Index allowed a significantly greater percentage of patients to be classified in Class I without showing an increase in life threatening complications in that group.

By chi square analysis which was significant ( $p = <.001$ ), the expected frequency of no or only minor complications was greater for all classes of the eye surgical cases (IOL cases of Newton) as compared to the expected frequency using the cardiac-risk index as computed by Goldman et al. Likewise, using the Dripps-American Society of Anesthesiology classification, the expected frequency of no or only minor complications is greater than expectations in all classes for the eye surgical cases. It is felt that several important factors may mitigate favorably to reduce anesthesia risk for the IOL group.

Elimination of recent myocardial infarction cases from the IOL study is probably related to the reduced number of patients in three other important risk categories ( (1) S3 gallop of jugular vein distention, (2) rhythm other than sinus and (3) premature ventricular contractions greater than 5/min).

Prior medical and surgical treatments may have improved the risk in the elective IOL group as compared to the surgical group. Nine patients in the IOL group had pacemakers. Four of these had prior discharge from the IOL study group and readmission for eye surgery after correction of arrhythmia. Nineteen (19) patients similarly were treated prior to eye surgery with successful coro-

nary artery by-pass operations. Eleven patients had recovered from successful carotid endarterectomy surgery. Conversely, none of these conditions might not have received prior treatment in the event of a general surgical emergency admission.

Furthermore, average duration of anesthesia time varies between the two groups, being generally briefer for the IOL surgery.

Patient selection may bear upon the comparative results. It is difficult to estimate the percentage of patients actually "culled out" in the selection process for elective IOL surgery. Most genuinely poor risk patients are generally not referred for eye surgery in the first instance. The ophthalmologist further trims the number of surgical candidates with his surgical judgement. Partially sighted extreme risk patients are simply not admitted for elective surgery under general anesthesia. Finally, of those admitted some were discharged from the study without eye surgery, or received surgery with regional block only.

Other unidentified factors may bear upon the demonstration of greater frequency of no or only minor complications in the IOL group of Newton as compared with the general surgery group of Goldman. However, from a risk standpoint, it appears that preoperative identification of certain serious cardiac risk variables and physical factors can be used to great advantage for patient selection.

#### REFERENCES

1. Cogbill, C. L.: Operation in the aged. *Arch. Surg.* 94:202-205, 1967.
2. Cole, W. H.: Medical differences between the young and aged. *J. Am. Geriat. Soc.*, 18:589-619, 1970.
3. Cole, W. H.: Prediction of operative reserve in the elderly patient. *Ann. Surg.* 168:310-311, 1968.
4. Del Guericio, L. R. M., and Cohn, J. D.: Monitoring operative risk in the elderly. *JAMA* 243:1350, 1980.
5. Dripps, R. D., et al.: *Introduction to Anesthesia: The Principles of Safe Practice*, W. B. Saunders Co., Philadelphia, 1982.
6. Djokovic, J. L., and Hedley-White, J.: Prediction of outcome of surgery and anesthesia in patients over 80. *JAMA* 242:2301, 1979.
7. Goldman, L., et al.: Multifactorial index of cardiac risk in noncardiac surgical procedures, *N. Engl. J. Med.* 297:845, 1977.
8. Goldman, L., et al.: Cardiac risk factors and complications in non-cardiac surgery, *Medicine* 57:357, 1978.
9. *Hospital Mortality: PAS Hospitals, United States, 1974-75*. Ann Arbor, Mich., Commission on Professional and Hospital Activities, 1977, p. 190.



10. Lewin, I., Lerner, A. G., and Green, S. H., et al.: Physical class and physiological status in the prediction of operative mortality in aged sick. *Ann. Surg.*, 174:217-231, 1971.
11. Owen, W. D., Felts, J. A., and Spitznagel, F. I., Jr.: ASA physical classifications. *Anesthesiology* 49:239, 1978.
12. Seymour, D., and Pringle, R.: Post operative complications in the elderly surgical patient, *Gerontology* 29:262-270, 1983.
13. Tarhan, S., Moffit, E. A., and Taylor, W. F., et al.: Myocardial infarction after general anesthesia, *JAMA* 220:1451-1454, 1972.



# Family Practice, A New Perspective\*

Ernie J. Chaney, M.D.\*\*

When people talk about gaining a new perspective, they are talking about a dynamic process. It implies moving around for another look. It connotes refusal to accept the flat, static view of a situation. When you see another perspective, you also discover an additional dimension.

This morning I will spend a few minutes telling you about the dimensions and perspectives of family practice that have positive implications for *all* of medicine. In addition, I have some survey data on the subject of stress, which we certainly all recognize as a significant dimension of life.

When family practice became the 20th major medical specialty 14 years ago, it comprised a new perspective in medicine. Before that, young men and women had to acquire the attributes of the well-rounded family physician largely through their own efforts and insights following a self-selected postgraduate process. The American Academy of Family Physicians, with membership contingent upon fulfilling CME requirements, played an important part in making this a feasible route to continued competence.

However, the establishment of three-year residency programs in the recognized specialty of family practice created an opportunity for medical graduates to participate in an organized course of study and experiences built on traditional medical cornerstones—drawing most heavily on internal medicine, pediatrics, obstetrics and gynecology, surgery, and psychiatry. The specialty of family practice, then, is based on the heritage of general practice, but has graduate programs (residencies) for physicians whose training encompasses first contact care, continuous care, comprehensive care, personal care, family care, and competence.

Along with formalization of the educational process, we also benefitted from the formalization of board certification. And the very process of struggling for establishment of the American Board of Family Practice resulted in significant innovations that continue working to keep the specialty dynamic.

Those of you who practice in the other medical specialties are entitled to know about our training, CME and certification—our perspectives, if you will—and those of you in family practice are entitled to take pride in them.

There are 387 accredited family practice residency programs. Each provides supervised in-hospital clinical training as well as experience in an ambulatory facility that emulates an office practice. Here the residents learn the pragmatics of giving comprehensive medical care to individuals in the context of their family relationships.

These family practice centers are located near the sponsoring institutions. At present, the 387 residency programs have the bases shown on this slide: A little more than half (53.7 percent) are based in community hospitals and affiliated with medical schools. About 14 percent are community based, but administered by medical schools. Another 12 percent in community hospitals are not so affiliated. About 16 percent of the residency programs are located in medical schools. The final component of location is in armed forces facilities.

Although many family practice residencies have developed their curricula to reflect an educational process based upon knowledge which must be obtained rather than the amount of *time* required to obtain such knowledge, most family practice residencies still divide the time spent in the program into the number of months spent on various rotations. All family practice residencies are required to include in-hospital education in approximately the following amounts:

Internal Medicine — 8 to 12 months

Obstetrics-Gynecology — 3 months

General Surgery — 2 months

Pediatrics — 4 to 5 months

Additionally, there must be educational experience, either in block rotations or through some other mechanism in the curriculum, in the following areas: Community Medicine, Emergency Medicine (including Cardiopulmonary Resuscitation), Human Behavior, Neurology, Ophthalmology, Orthopedics, Otolaryngology, Practice Management, Psychiatry, Radiology and Urology.

Upon completion of their residency, the young men and women hopefully embody the attributes that make up the definition of family practice

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that is espoused by the American Academy of Family Physicians and the American Board of Family Practice:

- "Family Practice is comprehensive medical care . . ."
- "... with particular emphasis on the family unit . . ."
- "... in which the physician's continuing responsibility for health care is not limited by the patient's age or sex nor by a particular organ system or disease entity . . ."
- "Family Practice is the specialty in breadth which builds upon a core of knowledge derived from other disciplines—drawing most heavily on internal medicine, pediatrics, obstetrics and gynecology, surgery and psychiatry . . ."
- "... and which establishes a cohesive unit combining the behavioral sciences with the traditional biological and clinical sciences . . ."
- "The core of knowledge encompassed by the discipline of Family Practice prepares the Family Physician for a unique role in patient management, problem solving, counseling and as a personal physician who coordinates total health care delivery."

The graduates sit for the certifying examination of the American Board of Family Practice. The ABFP is proud of the innovations it established at its inception 14 years ago, as well as others that continue to evolve. Among those are the following:

- (1) It was the first to include directors from other boards.
- (2) There was no "grandfathering" in the ABFP.
- (3) The ABFP was the first specialty board to require re-certification.
- (4) The ABFP was the first to require review of office records.
- (5) It was the first to provide immediate feedback after in-training assessment exam.

Now to expand briefly on these innovations:

In addition to 10 family physicians on the ABFP's 15-member Board of Directors, there are five directors from other specialty boards: one each from pediatrics, surgery, internal medicine, obstetrics and gynecology and psychiatry. This practically guarantees a dynamic atmosphere within the certifying process.

The specialty of family practice was the first ever to require examination for all those who acquire diplomate status. There are no "grandfathers" in family practice. Every board certified family physician has passed the tough two-day examination given by the American Board of Family Practice.

Family Practice was also the first to require periodic re-certification. The recertification process is not merely an examination. It is a process of four major elements: (1) continuing education; (2) licensure; (3) cognitive examination; and (4) office record review. Every six years we complete this process. (It's amazing how quickly six years can pass.)

The ABFP was the first to have in-depth analysis of office records as part of the recertification process. Every physician participating in the recertification process must submit a certain number of copies of patient charts (with patient identification deleted) to the ABFP to be reviewed by chart analysts. Candidates for recertification must demonstrate appropriate data in their patients' charts. This review procedure itself is being updated through a research project which does it more thoroughly and extensively through the use of the computer.

The ABFP was the first certifying board to give residents immediate feedback from their in-training assessment exam. Upon handing in their answer sheets, residents are immediately given a critique booklet that contains an explanation of the individual test questions and problems, with the proper answers and the justification of those answers. It also is referenced with an exact bibliographic source from the current medical literature.

The entire process of certification and recertification—cognitive exams, record review, in-training assessment—is subject to constant evaluation and review. There are more than 27,000 physicians currently certified in this specialty. About half of these qualified to sit for the exam in the early 70's through documented CME and other credentials, before that avenue was closed in 1978. The other half are residency graduates.

We are determined to continue development as the specialty with diplomates who have demonstrated excellence and proficiency in cognitive knowledge, procedural skills, and interpersonal skills.

I submit that perspectives such as these promise new dimensions of accomplishment for *all* of medicine.

Moving onto a broader plane, I have some information to share this morning on the subject of stress. We in family practice certainly do not claim exclusive interest in the effect of stress on people's health. It's a growing awareness throughout the medical profession, as well as the public at large.

As the emphasis grows, and words like "lifestyle," "wellness," and "stress management" become part of the popular vocabulary, we find increasing relevance to a survey conducted in 1979 by the American Academy of Family Physicians.

The survey was titled "Lifestyles/Personal Health Care in Different Occupations." We sought information from approximately 4,500 individuals in six occupational groups: physicians, farmers, garment workers, secretaries, business executives and teachers.

In the next few moments, I would like to show you some of the findings in terms of stress and people's understanding of it. I want to emphasize this is *perceived* stress, as reported in answers to a survey—not actual stress as measured in clinical terms or professional observations. It seems obvious that we need to understand this perception of stress as a tool in bringing about reduction in risks.

This first slide indicates that everyone except the farmers feels a significant degree of stress on the job. And yet, as the unshaded bars indicate, most say that they like their job. From this we can conclude that stress is not necessarily looked upon as an inherent evil, but rather as more of a stimulus in the work place.

As individuals responsible for helping people handle stress, you will be interested in our findings about the specific factors reported as particularly stressful: We asked, "If you find your job stressful, which of the following contribute?" These are results.

Another question was, "If you are unhappy with your job, which of the following contribute?" The leading cause, you can see, is lack of appreciation.

We also asked the respondents to identify the factor most important in considering a change in their line of work.

When we asked what the people did to cope

with stress, we found that talking to a friend and exercising led the list of methods. Additional figures not shown on this slide indicate that very few (2.7%) said they talked to professionals such as a physician, clergyman or therapist. Several methods are practices detrimental to health which we need to help people deal with. We'll return to those specifics in a moment.

The Lifestyles study clearly indicates that for the most of the six occupational groups surveyed, the workplace generates more stress than the home. A clear majority in all six groups say they are very content with their living arrangements—including two-thirds of the executives, three-fourths of the physicians, and nearly four-fifths of the farmers. Slightly less than 60 percent of the teachers, garment workers and secretaries report a comparable degree of high satisfaction. Even so, better than 95 percent of all six groups indicated they are at least fairly content with their living arrangements.

Two-thirds of the garment workers and teachers, almost 85 percent of the executives, and nine-tenths or better of the farmers and physicians are married. Secretaries constitute the "least married" sample (59%), with the highest proportion of divorced as well. Roughly one-fifth of the secretaries and teachers are single.

The general level of satisfaction with home life may be indicated by the much smaller percentages who checked off specific "Problems at home" than checked off specific "job stress factors." For example, whereas "workload" was checked by 49 percent of the physicians and 48 percent of the secretaries as a job stress factor, the highest percentages of either group who checked off any one home problem was 16 percent of the physicians (spouse conflicts) and 19 percent of the secretaries (money).

This slide shows the home problems acknowledged by each of the six groups. The overall consistency of most of these samples—money, spouse conflicts and sexual difficulties leading most lists without great gaps between them—is perhaps as noteworthy as the differences that do exist. Additional information shows that  $\frac{2}{3}$  of the farmers indicate *no* home problems and that more than half of the doctors and executives followed suit.

Overall, home problems do not loom as large for the six occupational groups as work problems. The exception is among the garment workers, for



whom salary is the chief reason to consider changing jobs, the major source of job stress and job unhappiness, and the largest problem at home besides.

Returning to the subject of how these individuals cope with stress, and that a number of the methods are detrimental to one's health, our survey reveals interesting figures about the use of cigarettes and alcohol. There are marked differences between the six samples regarding the extent of cigarette smoking. Although non-smokers outnumber smokers in all six samples, the proportion ranges from 91% non-smokers for farmers down to 76% for garment workers.

As you continue viewing the general proportions of smokers-to-non-smokers, I will tell you that a very different pattern emerges when the six samples are compared with reference to the intensity of their cigarette smoking; that is, comparing heavy smokers to light smokers within each group. For purposes of this study, heavy smokers are defined as those who smoke a pack or more per day, and the following data applies only to smokers.

Among garment workers, the light smokers outnumber the heavy by a majority of eight to one. Among physicians and farmers, the two types of smokers are about equal. Light smokers predominate somewhat among teachers, while heavy smokers predominate somewhat among secretaries. Among the executives, the predominance of heavy smokers is even more pronounced, where they lead by a margin of about five to two.

In terms of cigarettes smoked per day, garment workers are no longer the "highest" users (as they were when considering the fact of smoking per se), but the lowest: the garment workers who smoke reported using approximately eleven cigarettes per day—about half the number used by physicians (21) and secretaries (22). Their consumption was somewhat less than half the rate for smoking executives, who average 26 cigarettes per day. Those farmers and teachers who smoke fall in the middle in terms of how many cigarettes smoked per day, at about 19.

Here again there is an interesting relationship between degree of usage and the likelihood of quitting. While executives may be the heaviest smokers at 26 cigarettes a day, the survey found that they are also the most successful at quitting: 53 percent of the non-smoking executives are ex-smokers. About half of the non-smoking physi-

cians are also "quitters." Garment workers have the smallest percentage who have been able or motivated to quit—possibly because of their low intensity of use-per-day. Perhaps 11 cigarettes per day is not perceived as a health risk in the same way as is the executives' 26 per day. The heavier a smoker one is, the greater the motivation may be to quit.

As health professionals, then, we can learn that on the subject of smoking we cannot make broad assumptions about the correlation between use, intensity, and the ability to quit smoking.

When it comes to alcohol, personal belief comes clearly into focus as a factor in reducing risk. Although there is a general agreement among the groups that drinking alcohol can be physically and psychologically harmful, there is wide divergence between them on the question of immorality of alcohol use. Only 10 percent of the executives and 15 percent of the teachers consider its use immoral, but 45 percent of the garment workers and 47 percent of the farmers do so. Teetotalers are numerous only among those two latter groups: the farmers (47 percent) and the garment workers (45 percent). There is an obvious correlation between belief of immorality and abstinence.

On the other hand, there is almost no correlation between abstinence and a belief in the physical and psychological harmfulness of alcohol, as shown at the upper reaches of this graph. Despite the high levels of agreement that alcohol is potentially harmful, 91 percent of the executives, 86 percent of the physicians and 82 percent of the teachers and secretaries are at least moderate drinkers.

Incidentally heavy drinkers—defined as those who take seven or more drinks a week—are most prevalent among executives, where they constitute about a third of the sample. You will remember that executives were also the group reporting the heaviest cigarette usage.

We have other figures that confirm the discrepancy between what people know is healthful and what they are doing about it. For instance, almost two-thirds of the respondents in each group want to lose weight, but no more than 10 percent of any sample group had followed a diet during the six months prior to answering the questionnaire—with the sole exception of female physicians.

Of those who had tried to lose weight, physi-

cians did best, with some 63 percent of them reporting success. Least successful in recent diets were garment workers (38%) and teachers (39%).

In the matter of exercise, also, our survey confirms the difference between knowing what is healthful and doing it. Belief in the importance of exercise is nearly unanimous, ranging from 86% of the garment workers. Nonetheless, fewer than half of the farmers, garment workers and secretaries and only slightly more than half of the teachers claim to exercise twice a week or more. About  $\frac{2}{3}$  of the doctors and executives claim to do so. All six groups agreed on the number one activity: walking.

Our lifestyles study revealed a number of other interesting patterns among the six occupational groups. There is not time to pursue each of them.

The overriding message that comes through the data of our study is that occupation and the workplace are highly significant factors affecting lifestyles and health care practices.

Also, we have interesting data that indicates the degree of disparity between what people in all occupations *know* to be good for their health and what actions they actually take in their own behalf.

I find it sobering that so few of the individuals in our survey sought professional help in dealing with stress. Clearly, we must be aggressive in presenting the concepts of wellness and preventive medicine so that people identify us as viable sources of help in these areas, as well as the more traditional situations of disease and accidents.





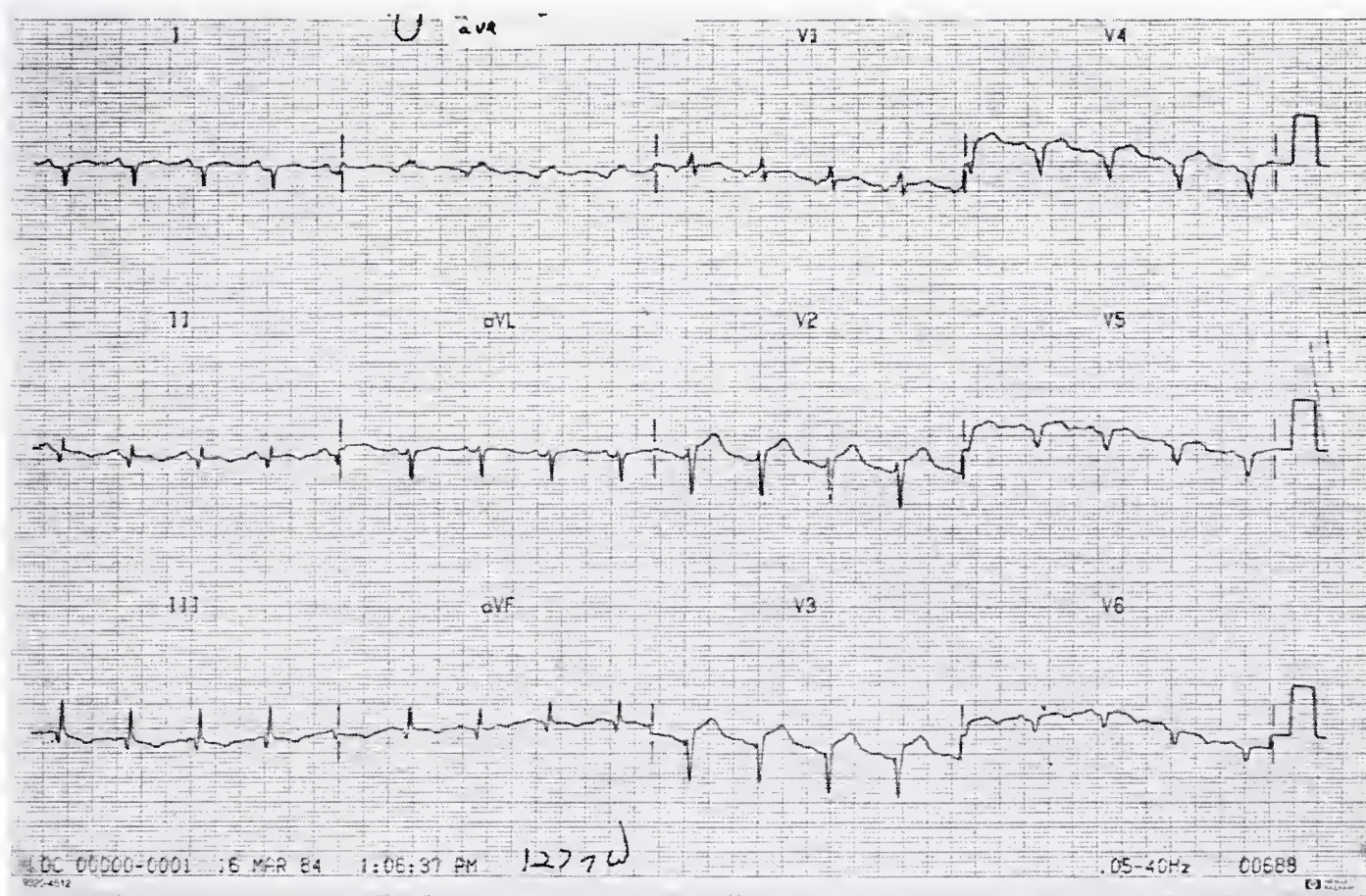


The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 599)

HISTORY: J. B. is a 52-year-old woman known to have obstructive lung disease who experienced a recent three hour long episode of severe substernal chest pain. Her routine physical examination was suggestive of COPD. The cardiac examination revealed a prominent left parasternal impulse, proper splitting of  $S_2$ , and an  $S_3$  which failed to vary with respiration. Of the following choices, which is least likely to be present?

1. Anterior infarction.
2. Inferior and true posterior infarction.
3. Right bundle branch block and left posterior fascicular block.
4. Right ventricular hypertrophy.



Randy Jordan, M.D., and John W. Watson, M.D.

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# Office Orthopaedics

## Post-Traumatic Cyst of the Tibia A Case Report

Philip H. Johnson, M.D.\*

This case report represents an unusual fracture complication. A 28-year-old healthy white male motorcycle mechanic was seen in our clinic seven weeks post-injury primarily as a result of a strange appearing x-ray. What appeared to be a cyst was present in the lower tibia as seen on the lateral view (Fig. 1).

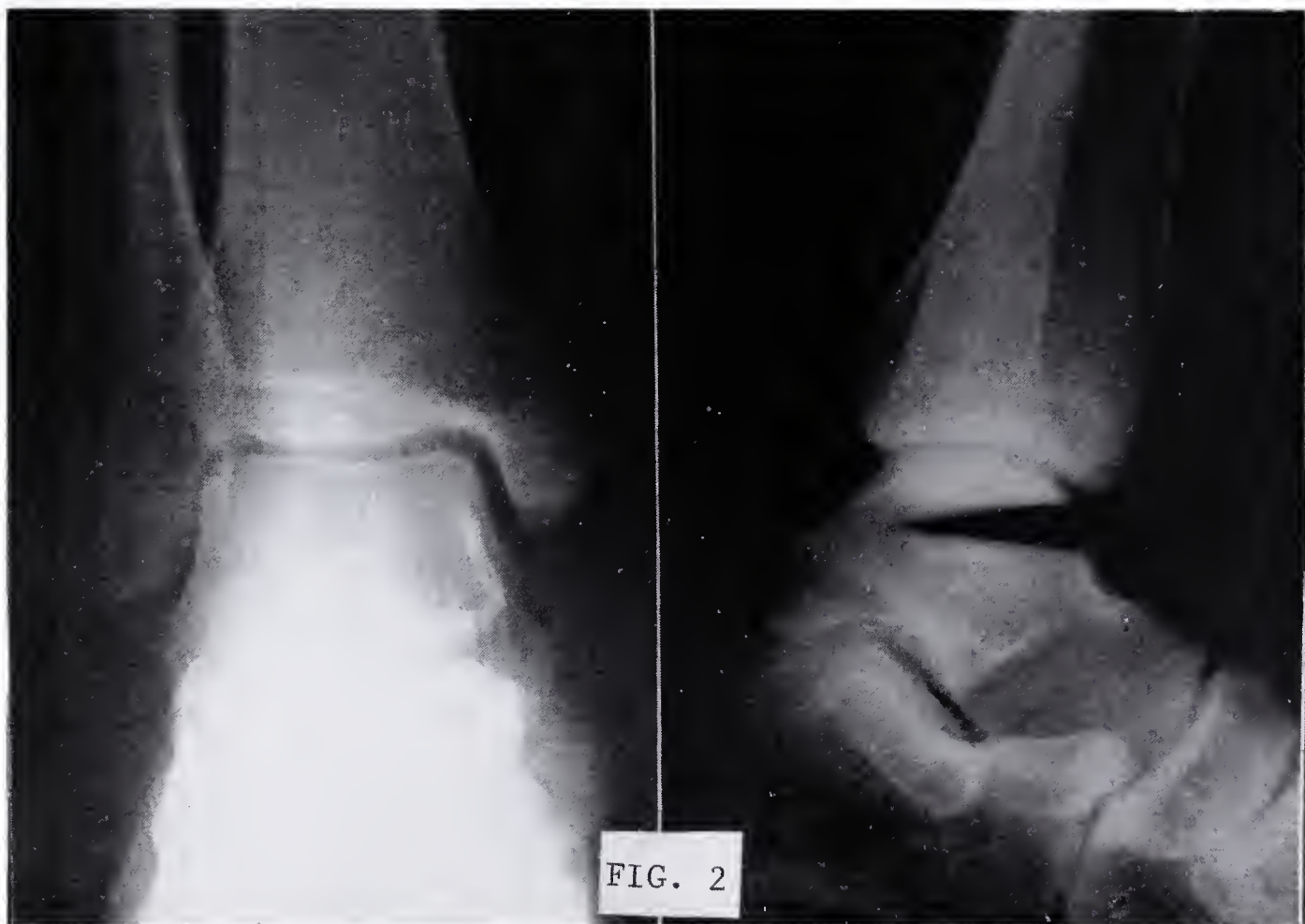
This patient's history began seven weeks earlier when he sustained an injury to his right ankle while starting a motorcycle. The single cylinder Honda 500 backfired at the time of a kick-start compressing his leg between the starter and the handle bars. He sustained a bruise to the top of his knee and an extremely sore ankle. He continued to work for the remainder of the day. He consulted his physician two days later because of persistent ankle pain and swelling. X-rays were made (Fig. 2) and carefully evaluated. They were read as negative. No treatment was felt necessary and the patient continued to work and ambulate normally on his painful ankle. One week later he returned to his physician's office because his pain and swelling were increasing. A second x-ray was taken of the ankle (Fig. 3) which showed a small linear fracture of the distal tibia in the coronal plane (arrow), without displacement. Frequently osteolysis at the fracture margins during the first week make a hairline fracture more obvious on follow-up x-rays. The patient at that time was placed in a short leg nonweight bearing cast. When the cast was removed six weeks post-injury, an alarming cystic lesion was seen in the distal tibia on the oblique lateral x-ray (Fig. 1).

At this point the patient was referred for orthopedic consultation. When repeat films were examined, it appeared that the patient had a circular shadow in the distal tibia with a halo of new bone about its periphery (Fig. 4). Could this be a growth of new tumor tissue, or could it represent a previously existing tumor rendering the bone more vulnerable to fracture? Tumors in the distal tibia near the epiphysis were considered. The patient was referred to the hospital for tomograms (Fig. 5). It was obvious from these, that what was suspected initially to be a round cystic lesion in the epiphysis, was actually a semicircular defect sitting on top of the old fused epiphyseal plate. The bone below in the epiphysis was normal. It then became apparent after reviewing his benign initial x-rays that this cyst represented a hematoma in the distal tibia on top of the fused epiphyseal plate. Blood gained access, deep within the bone, through an undisplaced coronal fracture in the distal tibia. At that point, the patient was replaced in a boot walking cast. He was next x-rayed ten weeks post-injury (Fig. 6), at which time it appeared that some "filling-in" of the lytic defect had occurred. The cast was discarded and the patient was allowed resumption of normal activities. At four months post-injury (Fig. 7) definite evidence of healing had occurred. By this time the patient was pain free and working normally. At six months (Fig. 8) complete disappearance of the lesion was observed.

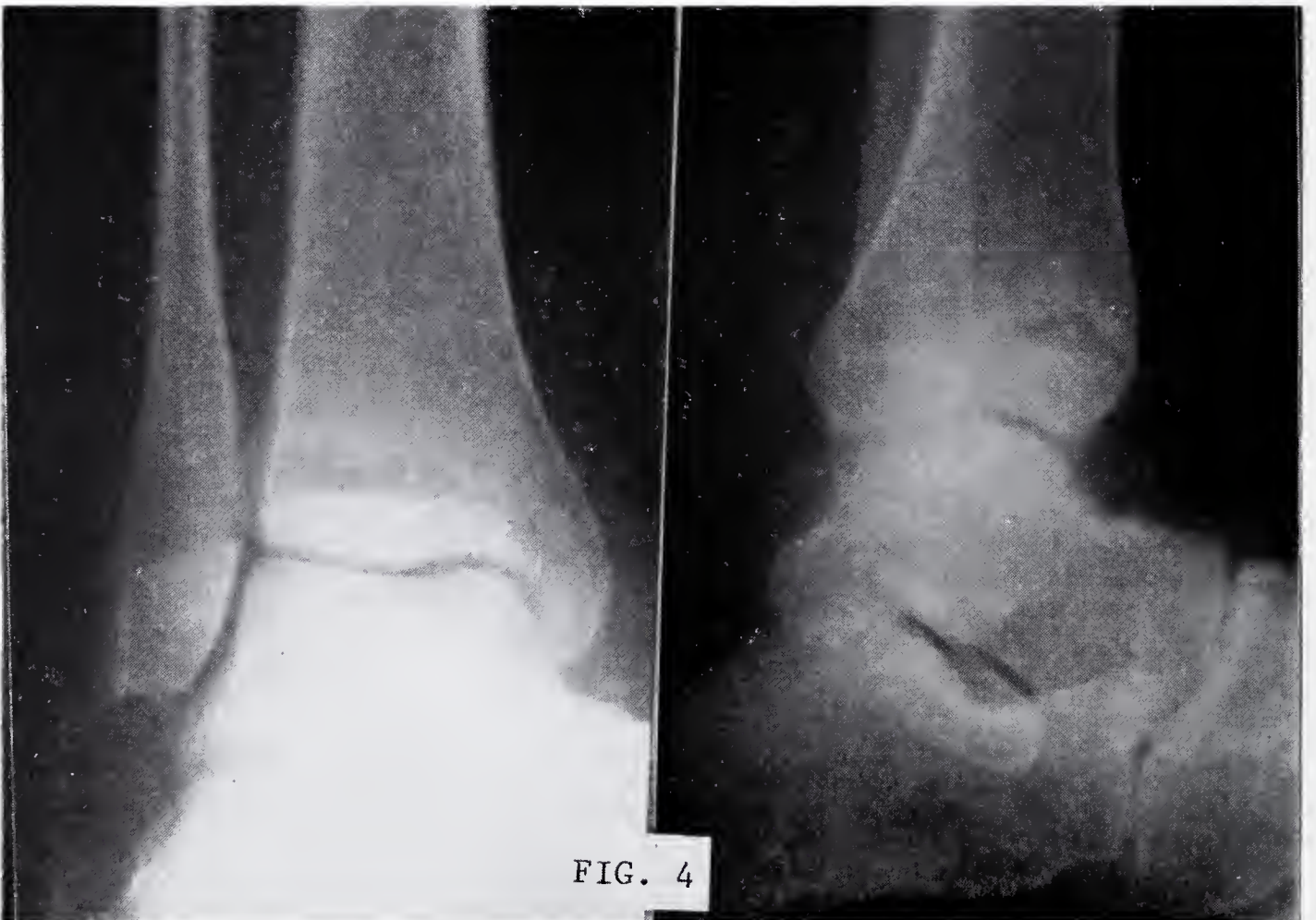
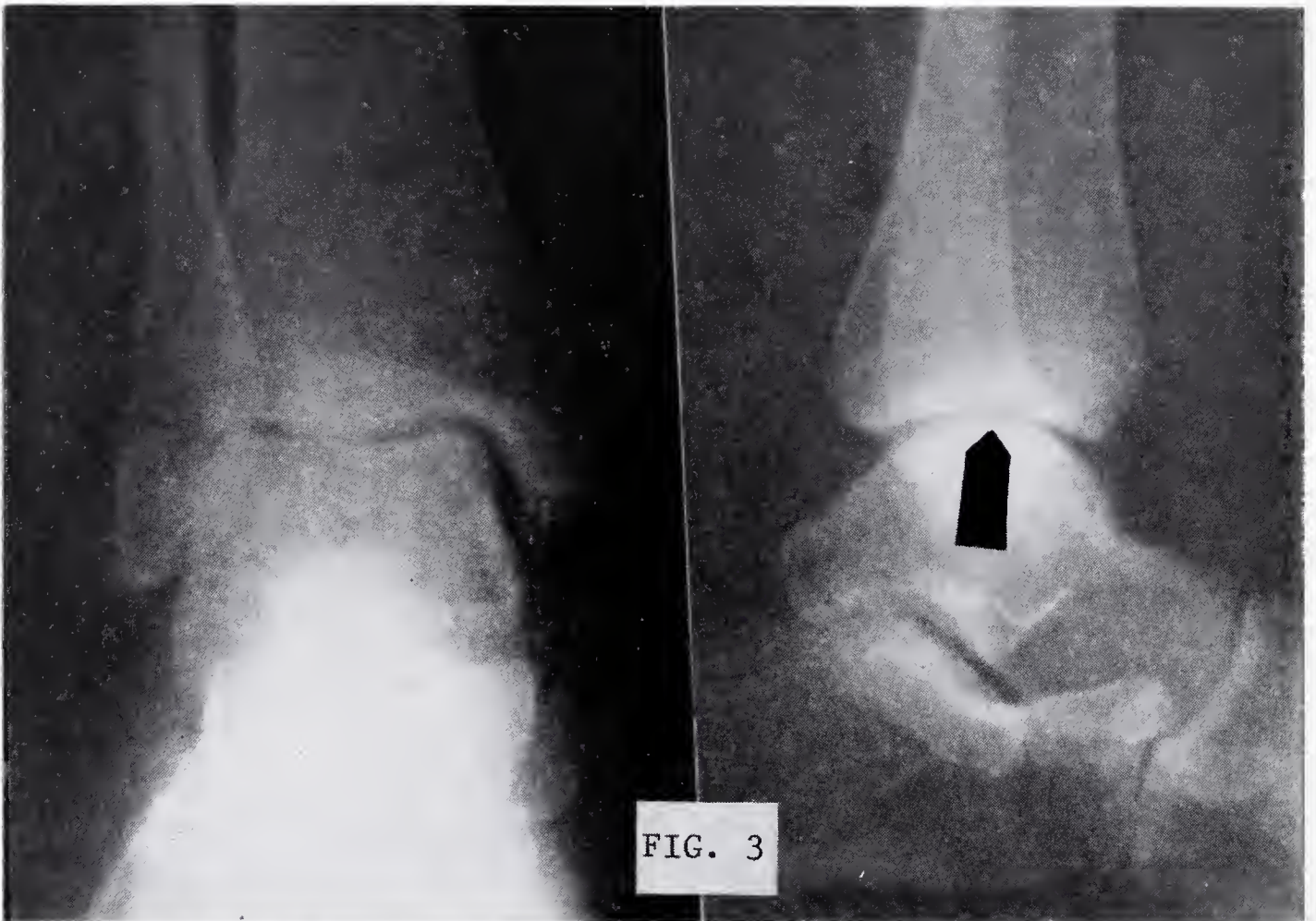
Computer search of the literature for the last twenty years failed to reveal any report of such a cystic lesion complicating a fracture. No doubt the patient's continued weight bearing during the

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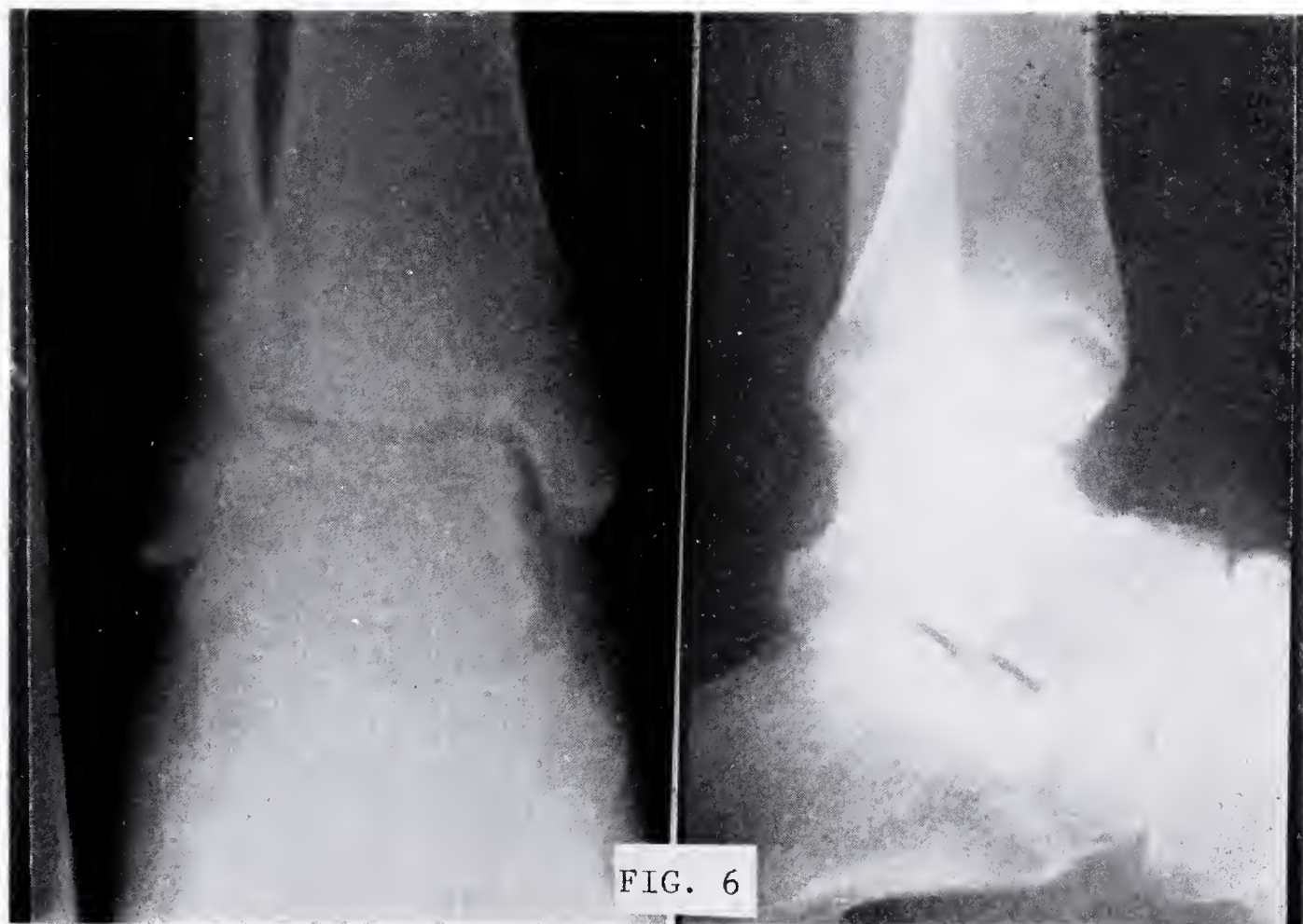




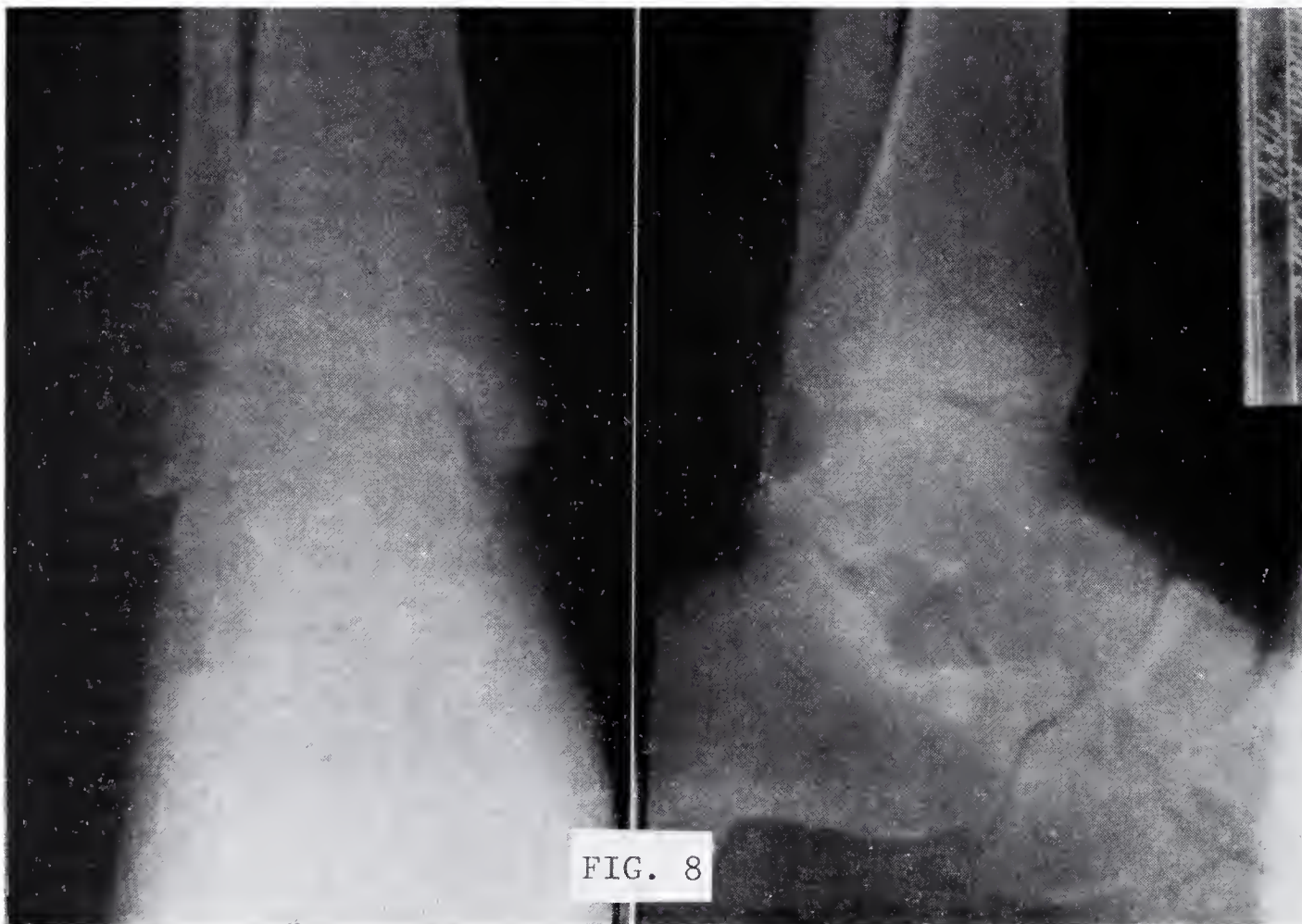
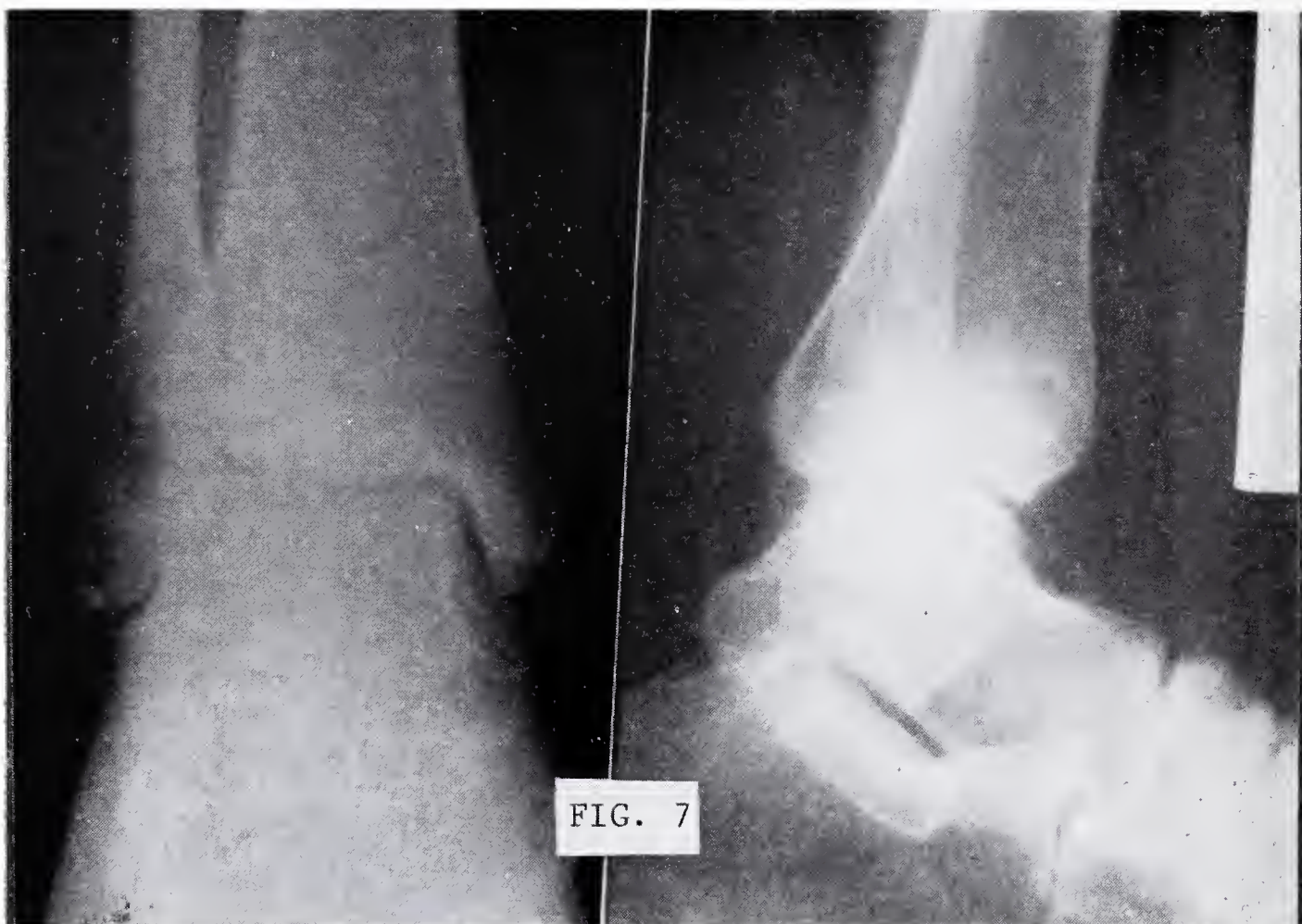














first week after injury produced compression of joint blood across the fracture producing this cyst. The bone of the distal epiphysis must have been more densely compact and resisted extravasation below the old epiphyseal plate. A layering of the blood therefore occurred above this level which at six weeks post-injury had produced an obvious peripheral osteoblastic response. Subsequent x-rays revealed complete healing of this lesion.

After the original x-rays were obtained, which

revealed a normal distal tibia at the time of the accident, it seemed reasonable to assume that these changes were produced by his injury. Even though no tissue diagnosis was obtained to substantiate the exact nature of this lesion, I feel that it is safe to assume that the lesion represented an unusual interosseous hematoma produced by continued weight bearing on this coronal fracture. Complete obliteration of the lesion over a period of months gives credence to this thesis.





## Hearing Loss In Infancy: An Arkansas Perspective

Fred R. Beggs, M.S., C.C.C.\*

Hearing impairment occurring in infancy has life-long effects. Lack of auditory stimulation can result in neurophysiological changes along the auditory pathways. Speech and language development are significantly affected. Consequently, the hearing impaired child is effected emotionally, socially and academically. Family members encounter numerous problems that continue for many years.<sup>1</sup>

The promotion of good hearing and the identification of hearing impairment should be the responsibility of the primary health care providers of the child. These people maintain the trust of parents to lead them if a problem is suspected or there is a concern. Identification of significant hearing loss at birth and early infancy presents more difficulty to these health care providers.

Proper prenatal care can serve as a preventative for congenital hearing loss. Specific care activities should include:

- Pre-pregnancy immunizations to rubella or a rubella titer
- Exercise caution in prescribing drugs having ototoxic potential to pregnant women
- Checking pregnant women for Rh blood factor incompatibility
- Cautioning pregnant women to avoid exposure to cytomegalovirus and toxoplasmosis
- Potential parents known or suspected of carrying hereditary genes affecting hearing should be referred for genetic counselling.<sup>2</sup>

### Prescreening

Identification of significant hearing loss at birth and early infancy presents more difficulty to health care providers. The High Risk Register for Hearing Loss has been found as an effective

prescreening device. This concept and a pilot project in Arkansas have previously been presented in this Journal by Colclasure, et al., in 1980.<sup>3</sup> A register provides the means to initially identify 75% of all significantly hearing impaired newborns.<sup>4</sup> It is a cost efficient method, preferable over general mass screening of all newborns.

The Joint Committee on Infant Hearing is presently composed of representatives from the American Academy of Pediatrics, American Academy of Otolaryngology—Head and Neck Surgery, the American Nurses' Association, the American Speech-Language-Hearing Association and the Directors of Speech and Hearing Programs in State Health and Welfare Agencies. A Committee Position Statement was last issued in 1982. According to the statement, the incidence "of moderate to profound hearing loss in the at risk infant group is 2.5% to 5.0%, audiologic testing on this group is warranted".<sup>2</sup>

Risk factors as determined by this Committee are:

- Family history of childhood hearing impairment
- Congenital perinatal infection (e.g., cytomegalovirus, rubella, herpes, toxoplasmosis, syphilis)
- Anatomic malformations involving the head or neck (e.g., dysmorphic appearance including syndromal and non-syndromal abnormalities, overt or submucous cleft palate, morphologic abnormalities of the pinna)
- Birthweight less than 1500 grams
- Hyperbilirubinemia at a level exceeding indications for exchange transfusion
- Bacterial meningitis, especially *H. influenzae*
- Severe asphyxia which may include infants with Apgar scores of 0-3 or who fail to institute spontaneous respiration by 10 minutes

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and those with hypotonia persisting of 2 hours of age.<sup>5</sup>

### Screening

Any infant having one or more of these risk criteria should receive a hearing screening by at least three months and no later than six months of age. Screening concepts most commonly employed are behavioral testing in a controlled environment done by an audiologist. Recently gaining wide respect is electrophysiological response to sound.<sup>6</sup> The most frequently used electrophysiological measures are the Crib-O-Gram<sup>7</sup> and brainstem auditory evoked potentials (BAEP). Suspect infants after screening should be referred for diagnostic testing. The diagnosis for infants should include a general physical examination and history and comprehensive audiologic evaluation.

### Incidence

Arkansas maintains an average birth rate of 36,000 annually. Generally, 15% of all newborns meet at least one of the high risk criteria and would be placed on the register.<sup>1</sup> This means there are approximately 5,400 high risk infants born in Arkansas each year. There is a national incidence rate of 1 to 1½ newborns per 1,000 births who will have a significant degree of hearing loss. Consequently, there are 36 to 54 hearing impaired Arkansas infants born annually. As was discussed previously, the High Risk Register is expected to initially identify 75% or 27 to 41 of these newborns. Presently, the professional estimate is that 75% of the hearing impaired children are not being identified until between 18 months and 30 months of age.

### Present Status

The pilot project was to develop a register in one Pulaski County hospital. It rapidly expanded into six counties in the eastern, central and western portions of the State. High risk forms were collected on all newborns and those meeting the criteria were placed on the register. Through extensive use of volunteers, each family of a high risk infant would be contacted when the baby was 3 months, 6 months, 9 months and 12 months of age. At each age, the volunteer would ask questions regarding auditory, speech and language development. Parents were also asked if they had concerns. If at any time there were negative answers regarding development or response to sound, a referral to an appropriate resource was made for further investigation.

The program was closely monitored for two years. It was evaluated and various problems were clearly evident. Primary problem areas were: (1) Parents tended to move often and contact was lost; (2) Families did not have telephones, making it impossible to make personal contact; (3) Volunteers did not find the activity rewarding and consequently, dropped from the program; (4) Arkansas did not have easily accessible means to test the hearing of these infants.

The Pulaski County high risk program was modified beginning in May, 1982. Prescreening utilizing the high risk criteria continues in four county hospitals. Parents of high risk infants are notified to schedule their infant for a hearing screening at three weeks of age. The hearing screening is free and is conducted in the Children's Hearing and Speech Clinic of the Arkansas Department of Health. Volunteers participate in the actual testing and an audiologist interprets the results. Infants judged passing the screening will be contacted as a follow-up measure at 12 months of age. Those with positive or questionable results are managed on an individual basis through the primary health care provider.

The screening method used is brainstem auditory evoked potential (BAEP). More specifically, a micro-processor averaging computer is used. Each infant is tested at two intensities (40 dB HL and 70 dB HL) for each ear. There are 1200 high frequency centered clicks presented through TDH-39 phones at a rate of 16 per second. Gold cup electrodes are placed on the forehead at the hair line and each earlobe. Testing is accomplished while the infant is asleep or very quiet. A trained volunteer monitors the baby for movement. Also, the computer alerts the examiner of movement. As this occurs, the testing is temporarily put on hold.

During the first 16 months of conducting the screening, the following results were obtained:

- 227 High risk infants were screened
  - 2 Confirmed severe to profound hearing losses
  - 1 Confirmed moderate hearing loss
  - 2 Suspected losses—parents refused follow-up
  - 17 Could not be tested due to too much activity.

For infants who cannot be tested, the parents are counselled about the importance of obtaining an assessment of hearing at a later date. Usually, they are encouraged to return to the Children's

Hearing and Speech Clinic when the infant is three to six months of age. Behavioral testing can be performed with good reliability.

#### Future Directions

Beginning in 1984, BAEP screening will be implemented in the Intensive Care Nursery of a Pulaski County hospital. The incidence of hearing loss has been estimated to be 20 to 50 times greater in the (ICN) than in the newborn nursery.<sup>8,9</sup> Screening will be conducted on infants who are stable enough for the procedure and special pediatric referral. The same test protocols as mentioned above will be utilized.

The efficiency and cost effectiveness of the prescreening and screening procedure warrant further investigation into its expansion. In the next few months, a project will be implemented into the feasibility of a statewide newborn identification program for hearing loss.

The eventual development of a state plan and its success will depend on the interest and participation of physicians, nurses, hospital and parent-support groups. Input from these groups will help

assure a workable plan for Arkansas. If it can be implemented, Arkansas should have a model program for many other states.

#### BIBLIOGRAPHY

1. Northern, J. L., and Downs, M. P.: *Hearing in Children*. Williams and Wilkins Co., 1974.
2. Downs, M. P.: *Hearing Development During Infancy*. Ross Laboratories, 1983.
3. Colclasure, J. B., et al.: Arkansas' High Risk Registry: Early Identification of Deafness. *Journal of the Arkansas Medical Society*, 77, August, 1980.
4. Downs, M. P., and Herrenway, W. G.: Report on the hearing screening of 17,000 neonates. *Int. Audiology*, 8:72-76, 1969.
5. Joint Committee on Infant Hearing: Position Statement. *Pediatrics*, 70:3, 1982.
6. Shannon, D. A., et al.: Hearing Screening of High Risk Newborns with Brainstem Auditory Evoked Potentials: A Follow-Up Study. *Pediatrics*, 73:22-26, 1984.
7. Simmons, F. B., and Russ, F. W.: Automated Newborn Hearing Screening: The Crib-O-Gram. *Arch. of Otol.*, 100:1-7, 1974.
8. Simmons, F. B.: Patterns of Deafness in Newborns. *Laryngoscope*, 90:448, 1980.
9. Schulman-Galambos, C., and Galambos, R.: Brainstem Evoked Response Audiometry in Newborn Hearing Screening. *Arch. of Otol.*, 105:86, 1979.





## Near-Drowning

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### Abstract

Drowning is the third leading cause of accidental death and is particularly common in teenage males. Drowning may occur with or without aspiration of water. Management of the near-drowning victim includes evaluation for associated injuries or disorders, respiratory support with continuous positive airway pressure (CPAP) for significant pulmonary edema, and treatment for cerebral edema and increased intracranial pressure. The prognosis is best in cold water near-drownings. Patients who resume spontaneous breathing after initial rescue and resuscitation before arriving in the Emergency Room have a distinctly better prognosis than those who do not. Prevention remains the key to further lowering morbidity and mortality from this accident.

Drowning accounts for more than 5,000 deaths a year; it is the third leading cause of accidental death.<sup>1</sup> There are even more accidents which result in near-drowning. By definition, near-drowning denotes survival for at least 24 hours following an acute submersion incident whereas drowning denotes that death occurred within 24 hours.<sup>2</sup> Drowning may be further subdivided into dry drowning or wet drowning. Dry drowning is death caused by laryngospasm and asphyxiation immediately following immersion in fluid without aspiration of water while wet drowning denotes death by aspiration of water.

### Epidemiology

The incident precipitating the drowning varies statistically with the age of the child. Drowning is most common in 15 to 19-year-old males.<sup>3</sup> Children over 10 years of age are usually involved in swimming, while those under 10 years of age are usually standing, walking, or playing near the water when they accidentally fall in.<sup>3</sup> The most common sites are minor lakes, ponds, reservoirs,

ivers, and swimming pools.<sup>3</sup> Forty percent of swimming pool drownings are in home pools usually involving children between one and four years of age and frequently associated with inadequate pool security.<sup>3</sup> In contrast, drowning in children under two years of age is common during bathing activities supervised by an older sibling or father.<sup>4</sup> In up to one-third of all drownings, alcohol is an important contributory factor.<sup>5</sup>

It is not surprising that teenage males are so commonly involved in near-drowning accidents. A frequent scenario involves the child who brags on the distance he can swim under water while holding his breath. Typically, the child hyperventilates and lowers his  $\text{PaCO}_2$  prior to diving into the water. Then, the combination of breath-holding and exercise while swimming lowers  $\text{PaO}_2$ . As long as the  $\text{PaCO}_2$  is low the child can consciously suppress his hypoxic drive to breathe. The brain develops hypoxia prior to the time when the  $\text{PaCO}_2$  rises enough to cause the child to surface. The child loses consciousness under water and aspirates. After hyperventilation this may occur as soon as 85 seconds after immersion.

### Pathophysiology

By autopsy diagnosis, 80% of all drownings appear to be wet drownings, while 10 to 20% are dry drownings. However, it is unusual for large quantities of water to be aspirated. In most cases, it is estimated that less than 22 ml/kg are aspirated.<sup>6</sup>

The pulmonary pathophysiology differs between salt water and fresh water near-drowning. In salt water near-drowning, the hypertonicity of the fluid present in the alveoli draws fluid from the plasma into the lung causing pulmonary edema and shunting. In fresh water near-drowning, hypotonic fluid is rapidly absorbed and the surface tension properties of surfactant are altered causing atelectasis and shunting. The end result in both cases is hypoxia.<sup>7</sup>

Other derangements which may be present include acid base problems, shifts in blood volume,

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and electrolyte abnormalities. However, it is said that electrolyte changes rarely occur unless more than 44 ml/kg of water are aspirated. This occurs in less than 15% of all drownings.<sup>8</sup> Anemia is rarely present; if anemia is noted, other injuries with internal bleeding must be ruled out. Renal function and neurologic function may be disordered secondary to the hypoxic-ischemic insult. Significant cerebral edema and increased intracranial pressure may result.

### Management

When confronted with a near-drowning victim in the emergency room, a history should be carefully taken to include the type of water aspirated, the temperature of the water, the time of submersion, the time lapse since the incident occurred, type of resuscitation given, and how the accident occurred. It is necessary to rule out associated injuries such as cervical spine fractures from diving, scuba diving accidents, intracranial injuries, and associated animal bites or stings.

The management of the near-drowning victim includes mandatory admission for observation. Room air arterial blood gas and chest x-ray are excellent prognosticators of the child's clinical course. Fandel found that all patients who required more than 40% oxygen for adequate oxygenation eventually needed mechanical ventilatory support.<sup>9</sup> Noncardiogenic pulmonary edema with significant hypoxia usually responds promptly to continuous positive airway pressure (CPAP). If the salt water near-drowning patient does not require hyperventilation for treatment of cerebral edema, he may be allowed to breathe spontaneously; however, periodic lung inflation has been shown to improve hypoxemia in fresh water near-drowning.<sup>10,11</sup> By increasing the CPAP incrementally, it is possible to correct the hypoxia and allow the patient to do his own work of breathing with minimal effort. The optimal level of CPAP is said to be that which reduces the shunt fraction to approximately 15% without interfering with cardiac output and oxygen delivery.<sup>12</sup> Patients with fresh water near-drowning usually require ventilatory support for a minimum of 24 to 72 hours since it may take from 18 to 20 hours for the lung to regenerate surfactant. Salt water near-drownings, in general, improve faster requiring support for less than 24 hours in some cases.

Other significant points in the management of

the near-drowning patient include placement of a nasogastric tube to remove what may be a massive amount of swallowed water which, if absorbed, contributes to electrolyte derangements.<sup>13</sup> It will also allow checks of gastric pH and antacid therapy as necessary to prevent stress gastritis or ulcers. The use of a Foley catheter, central venous catheter, Swan-Ganz catheter, or an arterial line may be desirable depending on the severity of the patient's illness.

Antibiotics are not recommended as part of the initial therapy unless grossly contaminated water has been aspirated.<sup>14</sup> If a secondary infection develops, antibiotics may be started at that time although this is unusual before the second or third day of illness. It is very common for the patient without any secondary infection to be febrile and to have leukocytosis for the first couple of hospital days. Steroids are not recommended as routine treatment for near-drowning either, unless the patient has a significant cerebral insult.<sup>15</sup>

Treatment for the cerebral edema begins with endotracheal intubation for airway protection if the patient is comatose. Hyperventilation may be desirable to control cerebral edema with the PaO<sub>2</sub> kept at  $\geq 100$  mmHg. Temperature should be controlled to avoid hyperthermia. Osmotherapy with mannitol and furosemide may prevent free-water accumulation in the brain. In some cases, intracranial pressure monitoring may be desirable with more aggressive therapy for cases with severe intracranial hypertension.<sup>16-18</sup>

### Prognosis

The prognosis for the child with near-drowning is excellent. In one series, 50% of admissions exhibited spontaneous respiration after initial CPR. All of these patients recovered with little or no cerebral insult despite early neurologic findings such as posturing or flaccidity. The other 50% of admissions were apneic after CPR; 69% of these patients died and survivors exhibited spasticity or persistent coma.<sup>19</sup> A good prognosis is also indicated by a spontaneous gasp within 5 minutes of extraction from the water.<sup>20</sup> Poor prognosis is evident if apneic or in need of CPR on arrival in the emergency room, if comatose on admission, or if the initial arterial pH is  $< 7.0$  (Table I).<sup>9</sup> In general, good cerebral results are seen in patients who have experienced less than 5 to 10 minutes of warm water submersion or less than 10 to 20 minutes of very cold water submersion.



**TABLE I**  
**Factors Associated With a Poor Prognosis**  
**In Recovery From Near-Drowning**

On arrival in Emergency Room:

- Absence of spontaneous respiration
- Need for CPR
- Comatose
- Initial arterial pH less than 7.0

Hypothermia has been found to be protective.<sup>21,22</sup> This probably potentiates the effectiveness in young children of the diving reflex.<sup>23</sup> This is a neurogenic reflex independent of baroreceptors and chemoreceptors which shunts blood away from nonessential organs to the heart and brain. It is associated with marked bradycardia. The reflex is triggered by cold water, usually  $< 20^{\circ}\text{C}$ , and is potentiated by fear.

Neurologic and psychometric follow-up after fresh water near-drowning has been encouraging. No correlation has been found between the time under water and the follow-up IQ. In fact, the median IQ of near-drowning victims in one series was greater than that of the general population.<sup>24</sup>

Psychological sequelae are rare in children. In one series 50 of 54 patients had total amnesia for the event later on. Only 3 of 54 exhibited fear of water later. One of 54 was severely brain damaged. None of the 54 children exhibited increased caution with water hazards in the future. In fact, 2 of the 54 had a second serious immersion incident, one of which was fatal.<sup>24</sup> It is not uncommon to see psychological sequelae in the parents, however. Usually at least one parent is nearby when the accident occurs; most drownings occur within 10 yards of safety.<sup>9</sup>

#### Prevention

Prevention techniques center around community education programs with encouragement of safety fences around pools and high water levels in pools so that even the young child may pull himself to safety.<sup>25</sup> Drownproofing or aquakinetix are encouraged, though swimming lessons of any sort are not advocated by the American Academy of Pediatrics in children under three years of age.<sup>26</sup> Security while bathing is also important for the young infant.

Safe water rescue techniques must also be encouraged. In particular, it is desirable to throw a life preserver to the victim, if conscious, rather than to attempt to swim to the victim. The latter technique frequently results in two near-drowning

patients. Cardiopulmonary resuscitation should be started while the patient is still in the water if at all possible for best results. The technique of gravity drainage of water from the lung may be useful with salt water near-drowning, but not with fresh water. However, there is a risk of inducing gastric contents aspiration with this technique—a problem which worsens the patient's prognosis.

Drowning is a preventable problem and a highly treatable problem in children with a good prognosis if treated early and aggressively.

#### REFERENCES

- Deaths from accidental drowning or submersion. National Center for Health Statistics, Division of Vital Statistics, Mortality Statistics Branch, Hyattsville, MD, 1978.
- Modell, J. H.: Drown versus near-drown: A discussion of definitions. *Crit. Care Med.* 1981; 9:351-352.
- Statistical Bulletins of Metropolitan Life Insurance Association, May-August, 1977.
- Pearn, J., Brown, J., III, and Wong, R., et al.: Bathtub drownings: Report of seven cases. *Pediatrics* 1979; 64:68-70.
- Harries, M. G.: Drowning in man. *Crit. Care Med.* 1981; 9(5):407-408.
- Modell, J. H.: The pathophysiology and treatment of drowning and near-drowning. Springfield, Illinois, Charles C. Thomas, 1971.
- Giammona, S. T., and Modell, J. H.: Drowning by total immersion: Effects on pulmonary surfactant of distilled water, isotonic saline, and sea water. *Am. J. Dis. Child.* 1967; 114:612-616.
- Modell, J. H., and Davis, J. H.: Electrolyte changes in human drowning victims. *Anesthesiology* 1969; 30:414-420.
- Fandel, I., and Bancalari, E.: Near-drowning in children: Clinical aspects. *Pediatrics* 1976; 58:573-579.
- Modell, J. H., et al.: Effect of ventilatory patterns on arterial oxygenation after near-drowning in sea water. *Anesthesiology* 1974; 40(4):376.
- Ruiz, B. C., et al.: Effect of ventilatory patterns on arterial oxygenation after near-drowning with fresh water: A comparative study in dogs. *Anes. Anal.* 1973; 52(4):570.
- Gallagher, T. J., Civetta, J. M., and Kirby, R. R.: Terminology update: Optimal PEEP. *Crit. Care Med.* 1978; 6(5):323-326.
- Noble, C. S., and Sharpe, N.: Drowning: Its mechanism and treatment. *Can. Med. Assoc. J.* 1963; 89:402-405.
- Modell, J. H., and Boysen, P.: Respiratory crisis in critical care, State of the Art, Vol. 1, Society of Critical Care Medicine, Fullerton, California, 1980.
- Modell, J. H., Graves, S. A., and Ketover, A.: Clinical course of 91 consecutive near-drowning victims. *Chest* 1976; 70:231-238.
- Conn, A. W., et al.: Cerebral resuscitation in near-drowning. *Ped. Clin. North Amer.* 1979; 26(3):691-701.
- Conn, A. W., Edmonds, J. F., and Barker, G. A.: Near-drowning in cold fresh water: Current treatment regimen. *Can. Anaesth. Soc. J.* 1978; 25:259-265.

18. Modell, J. H., Graves, S. A., and Kuck, E. J.: Near-drowning: Correlation of level of consciousness and survival. *Can. Anaesth. Soc. J.* 1980; 27:211-215.
19. Jacobsen, W. K., Mason, L. J., and Briggs, B. A., et al.: Correlation of spontaneous respiration and neurologic damage in near-drowning. *Crit. Care Med.* 1983; 11(7): 487-489.
20. Pearn, J., Bart, R. D., Jr., and Yamaoka, R.: Neurologic sequelae after childhood near-drowning. A total population study from Hawaii. *Pediatrics* 1979; 64:187-191.
21. Young, R. S. K., Zalneraitis, E. L., and Dooling, E. C.: Neurological outcome in cold water drowning. *JAMA* 1980; 244:1233-1235.
22. Siebke, H., Rod, T., and Breivik, H., et al.: Survival after 40 minutes' submersion without cerebral sequelae. *Lancet* June 7, 1975; 1:1275-1277.
23. Pearn, J.: Survival rates after serious immersion accidents in childhood. *Resuscitation* 1978; 6:271-278.
24. Pearn, J., et al.: Neurological and psychometric studies in children surviving fresh water immersion accidents. *Lancet* 1977; 1(1):7.
25. Pearn, J., and Nixon, J.: Prevention of childhood drowning accidents. *Med. J. Aust.* 1977; 1:616-618.
26. Schieffelin, J. W.: A new technique in water survival training for infants and toddlers. *Pediatr. Ann.* 1977; 6:710-712.





## Atopic Dermatitis

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Atopic dermatitis is a widespread neurodermatitis that shortly after birth involves the cheeks and extensor surfaces of the extremities and in older children and adults localizes in flexural areas and the neck. Generally it is clinically recognizable although contact dermatitis to ragweed, Wiskott-Aldrich syndrome, hyper-IgE syndrome, phenylketonuria, and other conditions can mimic atopic eczema. Diagnostic criteria have been outlined by Hanifin and Lobitz<sup>1</sup> (Table 1).

Many factors influence the development and aggravation of atopic eczema, which perhaps explains the lack of a clear-cut genetic pattern. Unfortunately, there is no absolute test or indicator for atopic dermatitis, just as there is probably no single underlying cause.

Persons with atopic eczema have a number of physiologic and pharmacologic differences. For example, white dermographism (Table 1) is a linear pallor that rapidly replaces the usual red line where the skin is stroked.<sup>2</sup> A delayed blanch rather than an axon reflex flare to cholinergic agents<sup>3</sup> is considered an atopic hyperreactivity to cholinergic agents,<sup>4</sup> perhaps mediated by norepinephrine.<sup>5</sup> Atopic individuals also show a more pronounced vasodilation from histamine in the same areas that one normally sees the skin eruption,<sup>6</sup> and a reduced threshold for histamine release from mast cells<sup>7</sup> (even though IgE stimulation of basophilic leukocytes is normal). Szentivanyi<sup>8</sup> proposed a mechanism involving blockade of beta receptors to explain the physiologic and pharmacologic abnormalities in atopic dermatitis, but it did not explain all of the findings. Inflammatory cells have lower levels than expected of cAMP following stimulation not only by beta-2 adrenergic agonists but also histamine (H<sub>2</sub>) and prostaglandin E. All of this is probably secondary to excessive cellular phosphodiesterase<sup>9</sup> which reduces cellular levels of cAMP despite adequate formation.

Eighty-four percent of individuals with atopic

dermatitis have dry skin (at least at some areas),<sup>10</sup> and histologic examination of these dry skin areas shows increased cohesion of cells with the stratum corneum, increased total epidermal thickness, patchy parakeratosis, and in places slight hypergranulosis, which prompted the opinion that the ichthyotic change is not true autosomal dominant ichthyosis, but rather an eczematous process.<sup>11</sup> This remains to be proved.

TABLE 1

**Required:**

- 1) Presence of pruritus
- 2) Typical morphology and distribution
- 3) Tendency toward chronicity or a relapsing pattern

**In addition: Two or more of the following:**

- 1) Personal or family history of atopy
- 2) Immediate skin test reactivity
- 3) White dermographism or delayed blanch
- 4) Anterior subcapsular cataracts

**Or at least four of the following features:**

- 1) Xerosis/ichthyosis/hyperlinear palms
- 2) Keratosis pilaris
- 3) Facial pallor/infraorbital darkening
- 4) Dennie-Morgan infraorbital fold
- 5) Elevated serum-IgE
- 6) Keratoconus
- 7) Tendency toward nonspecific hand dermatitis
- 8) Tendency toward repeated cutaneous infections

**Caption:**

Criteria for the diagnosis of atopic eczema from Hanifin and Lobitz.<sup>1</sup>

A number of immunologic changes occur. There is a T-lymphocyte deficit, with the mean percentage of T-lymphocytes lower than controls, but B-lymphocyte levels are normal in some studies and abnormal in others,<sup>14</sup> while levels of eosinophils and serum IgE are increased. Atopics have depressed cell-mediated immune responses to an extract of *Canadida albicans* and to streptokinase-streptodornase<sup>13</sup> which correlates with the extent of the dermatitis and the magni-

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tude of the serum IgE concentration. Clinically atopics have less tendency for development of poison ivy dermatitis<sup>15</sup> but have more warts<sup>16</sup> and molluscum contagiosum.<sup>17</sup>

A recent report showed benefit from administration of essential fatty acids (in the form of evening primrose seed oil) which contain linoleic and gamma linoleic acids), particularly in adults afflicted with atopic eczema.<sup>18</sup> This is unconfirmed, and the probable mechanism for this is uncertain, but it could be related to the function of essential fatty acids either in cell-membrane formation or in precursors of prostaglandin derivatives. *Linoleic* acid, the main dietary source of essential fatty acids, must be first converted to *gamma-linoleic* acid, which is already present in evening primrose oil, and this may by-pass some enzymatic defect. Another idea is that there is a block in converting *linoleic* acid to *gamma-linoleic* acid.<sup>18</sup> Voorhees<sup>19</sup> in a review felt that such dietary changes could alter inflammatory response since *linoleic* acid may cause competitive inhibition of the production of 2-series prostaglandins and 4-series leukotrienes<sup>20</sup> and dihomogamma-linoleic acid blocks leukotriene formation.<sup>21</sup>

Most atopics respond favorably to very simple forms of therapy. Avoidance of soap and other drying agents is important, and lubrication of the skin should be preceded by application of water to restore normal hydration. Lower environmental humidity reduces the incidence of sweat retention. Some atopics do not tolerate propylene glycol in topical corticosteroids, or in emollients. Emollients containing lanolin are acceptable provided the patient is not lanolin sensitive. Some recommend using Cetaphil in place of soap.<sup>22</sup>

Modern therapy for atopic eczema is usually effective, so nonresponsive patients should be evaluated for noncompliance, sensitivity to medications or emollients, misunderstanding of the routine, excessive bathing or the presence of detergents in clothing, and sweat retention.

Some younger children with extremely severe recalcitrant eczema benefit from avoidance of milk and milk products, but routine avoidance is not indicated. Topical corticosteroids are extremely helpful in controlling itching and the inflammatory changes, and the appropriate topical agent is the least potent effective preparation. Hopefully the principles of topical corticosteroid

therapy can be covered in a later article.

#### REFERENCES

1. Hanifin, J. M., and Lobitz, W. C., Jr.: Newer concepts of atopic dermatitis. *Arch. Dermatol.* 1977; 113:663-670.
2. Whitfield, A.: On the white reaction (white line) in dermatology. *Br. J. Dermatol.* 1938; 50:71-82.
3. Lobitz, W. C., Jr., and Campbell, C. J.: Physiologic studies in atopic dermatitis (disseminated neurodermatitis): the local cutaneous response to intradermally injected acetyl choline and epinephrine. *Arch. Dermatol.* 1953; 67:575-589.
4. Hanifin, J. M.: Atopic dermatitis. *J. Am. Acad. Dermatol.* 1982; 6:1-13.
5. Juhlin, L.: Vascular skin reactions in atopic dermatitis. *Acta. Dermatol. Venereol.* 1962; 43:218-229.
6. Williams, D. H.: Skin temperature reaction to histamine in atopic dermatitis (disseminated neurodermatitis). *J. Invest. Dermatol.* 1938; 1:119-129.
7. Fantozzi, I. R., Massini, E., Blandina, P., and Man-naioni, P. F.: Cholinergic histamine release: evidence of muscarinic receptors in rat mast cells. *Agents and Actions* 1979; 9:57-58.
8. Szentivanyi, A.: The Beta adrenergic theory of the atopic abnormality in bronchial asthma. *J. Allergy Clin. Immunol.* 1968; 42:203-232.
9. Chan, S. C., Grewe, S. R., Saffko, M. J., and Hanifin, J. M.: Enhanced leukocyte phosphodiesterase activity in atopic dermatitis and after histamine-mediated desensitization. *Clin. Res.* 1981; 29:597, (Abst.)
10. Uehara, M., and Ofuji, S.: Atopic Dermatitis; A discussion of theories concerning its pathogenesis. *J. Dermatol.* 1980; 7:231-238.
11. Finlay, A. Y., Nicholls, S., Kins, C. S., and Marks, R.: The "dry" non-eczematous skin associated with atopic eczema. *Br. J. Dermatol.* 1980; 103:249-256.
12. Byron, N. A., and Timlin, D. M.: Immune status in atopic eczema: A survey. *Br. J. Dermatol.* 1979; 100: 491-498.
13. McGeady, S. J., and Buckley, R. H.: Depression of cell-mediated immunity in atopic eczema. *J. Allergy Clin. Immunol.* 1975; 56:393-406.
14. Luckasen, J. R., Sabad, A., Goltz, R. W., and Kersey, J. H.: T and B lymphocytes in atopic eczema. *Arch. Dermatol.* 1974; 110:375-377.
15. Jones, H. E., Lewis, C., and McMarlin, S. L.: Allergic contact sensitivity in atopic dermatitis. *Arch. Dermatol.* 1973; 107:217-222.
16. Currie, J. M., Wright, R. C., and Miller, O. W.: The frequency of warts in atopic patients. *Cutis* 1971; 8:244-245.
17. Solomon, L. M., and Telner, R.: Eruptive molluscum contagiosum in atopic dermatitis. *Can. Med. Assoc. J.* 1966; 95:978-979.
18. Wright, S., and Burton, J. L.: Oral evening primrose-seed oil improves atopic eczema. *Lancet* 1982; 1120-1122.
19. Voorhees, J. J.: Leukotrienes and other lipoxygenase products in the pathogenesis and therapy of psoriasis



- and other dermatoses. *Arch. Dermatol.* 1983; 119:541-547, (editorial).
20. Needleman, S. W., Spector, A. A., and Hoak, J. C.: Enrichment of human platelet phospholipids with linoleic acid diminishes thromboxane release. *Prostaglandins* 1982; 24:607-622.
21. Scholkins, B. A., Gehring, D., and Schlotte, V., et al.: Evening primrose oil, a dietary prostaglandin precursor, diminishes vascular reactivity to renin and angiotension II in rats. *Prostaglandins Leukotrienes Med.* 1982; 8:273-285.
22. Scholtz, J. R.: Management of atopic dermatitis. *Calif. Med.* 1965; 102:210-6.





## EDITORIAL

# Pulmonary Edema

Alfred Kahn, Jr., M.D.

Pulmonary edema is ubiquitous. It is a most serious complication in both medical and surgical illnesses. There has been a recent UCLA School of Medicine Conference entitled "Recent Developments in Pulmonary Edema" by Crandall, Staub, Goldberg, and Effros (*Annals of Internal Medicine*, Volume 99, page 808, December, 1983).

Crandall, in his opening remarks, highlighted the importance of this disorder by stating that edema might be uncomfortable in various places, but that it could be lethal in the brain and lung; obviously, pulmonary edema causes a major disturbance in the absorption and release of gases. In this same introduction, four mechanisms are projected as a cause of pulmonary edema — "elevated microvascular hydrostatic pressure, increased capillary permeability, obstruction to lymphatic drainage, and low vascular oncotic pressure." The discussants oriented their remarks around the fact that to have pulmonary edema there has to be fluid in the interstitial space of the alveoli and it had to reach these areas by crossing some anatomic barriers. Dr. N. C. Staub, in his presentation discussed the endothelial barrier as the primary buffer against distention of the lung with extra vascular fluid. He described the fact that the microvascular pressure in the lung can be measured in unanesthetized sleep. Based on the use of Starling's equation, a good deal of derivative information can be obtained from studies such as this. He found that lymph flow in the lung is present even when the microvascular pressure was low. If the microvascular pressure is raised, it is said that the filtration rate will increase and eventually a steady state of lymph flow occurs. In the above-described situation, the protein concentration of lymph is said to decrease and this, in turn, will affect the lymph flow. In so-called high pressure edema, Staub says that the concentration of protein in the edema fluid is

roughly 50% of that of the plasma; he goes on to say he had a recent patient who had pulmonary edema and this patient had only 15% as much protein in his edema fluid as in his plasma; he interpreted this to mean that the alveolocapillary barrier also acted as a barricade to the passage of approximately 85% of the protein molecules which were attempting to pass through the barrier. Staub goes on to say that "successive elevations of microvascular pressure lead to successive declines in the perimicrovascular protein osmotic pressure"—this is, so to speak, a feedback mechanism in Staub's opinion. On the most interesting points which this discussant brought up were five safety factors that he outlined as protective functions in combating pulmonary edema: Lymphatic systems, low microvascular barrier liquid conductants, very low microvascular barrier protein conductants, plasma protein concentration, perimicrovascular liquid pressure. All of the above points reflect factors pertaining to high pressure edema. Staub also discussed increased permeability edema. This can be experimentally produced by injection of certain bacteria. In this situation, liquid and protein substances go through the endothelial barrier in much larger quantities than usual. This can occur at times with only mild to moderate endothelial barrier damage; Staub states this is a very important reason for physicians to make an all-out effort to keep the systemic arterial concentration high—repair can occur in these circumstances. Staub reports that the distinguishing feature between increased permeability edema and high pressure edema is the high protein concentration in the lymph in increased permeability edema. He also discussed endothelial barrier injury which he subdivided into those caused by direct action on the endothelium and those which are the result of an interaction of some agent or agents on endothelial



cells. Staub includes in his discussion some information about the treatment of pulmonary edema, which is to maintain a high level of arterial oxygen concentration and measures to diminish all the factors which cause liquid filtration. Specifically, it was suggested that cardiac function be improved—to obtain a low end diastolic pressure, the use of diuretic agents to decrease the total body water content, measures which would decrease lung microvascular pressure, and, lastly, positive pressure breathing which is said to work by inflating low volume alveoli.

Another discussant in this interesting symposium was Dr. Howard S. Goldberg, who outlined the role of the interstitium in lung fluid balance. He states that the interstitial tissue of the lung has an obvious function in pulmonary edema by limiting the transudation into the extra vascular space; it is also said to move the fluid to areas where the lung will not be harmed. Goldberg describes how fluid can move from the vascular channels into the interstitium by crossing the vascular endothelium. If the hydrostatic pressure rises in the small vessels of the lung, fluid tends to move into the interstitium—the amount of fluid is said to be small because of a lack of compliance in the interstitium. He goes on to say “interstitial hydrostatic pressure, under normal conditions, is less than alveolar pressure. This difference allows the normally low interstitial compliance to protect the air spaces against significant edema until a positive hydrostatic pressure gradient for fluid movement into the alveoli is created. Compliance of the interstitium is capable of increasing and it is said that this may be the result of fluid moving toward the hilum of the lung; several mechanisms are possible determining factors in this migration of fluid from the periphery of the lung to the hilum. Lymphatic flow was largely fluid from the interstitium of the lung and the author states that lymph flow in the lung can increase ten-fold. Goldberg states that chemical and energy factors can influence the function of the lung interstitium and cites one example of the osmotic pressure difference across the vascular endothelium; it is of interest that the interstitial space is not equally open to water and to the chemical solutes that pass into the interstitial space. It is said that albumin can occupy only about 50% of the interstitial space which is available to water; it is further pointed out that a healthy lung interstitium is able to prevent the accumulation of

albumin molecules, but a damaged interstitium cannot do so. It is postulated that actin and myosin filaments are present in some of the cells in the lung and these contract after being appropriately stimulated; the result of this is to, so to speak, wall off certain areas of the interstitium. Pulmonary edema upsets the gas exchange in the lung and the discussant recommends increasing the functional residual capacity of the lung with use of positive endothelial expiratory pressure.

The role of the epithelium in lung fluid balance was the basis of E. D. Crandall's discussion—and he began his discourse by stating that the principle problem in pulmonary edema is fluid filling up the open spaces of the alveoli, thus preventing proper gas exchange. He states that the problem of net fluid flow across the alveolar epithelium has been studied but the results do not clearly explain this physiologic phenomenon. This is the case, despite the fact that hydrostatic and osmotic pressure in the blood vessels and the surrounding tissues can be estimated. Similar pressures can be measured in almost every area of the lung tissue—except alveolar fluid; this latter substance is effected by many factors. Among the problems in making some of the measurements pertaining to osmotic and hydrostatic pressure involves the alveolus is the matter of surfactants, air space pressure, surface tension, etc. The lymph flow in the interstitium should be regarded as a mathematical vector between the substances flowing out of the alveoli into the interstitium and from the interstitium into the capillary, and vice versa. The author states that there are two major characteristics of the alveolar epithelium which are important—“First, the resistance of the epithelium to the passive flow of solutes and water”—and “active transport of solute by alveolar epithelium”. At this point, Crandall divides his discussion into two parts; the passive barrier properties of alveolar epithelium and the active transport properties of alveolar epithelium. He states that with regard to passive barrier properties, lung epithelium, when examined by electromicroscopy, shows the cells to be connected by high density strands—which would tend to make the passage of liquid difficult. In other words, the relationship between alveolar epithelium cells is “tight”. Other less important causes of passive barrier properties are discussed by the author. Active transport properties of alveolar epithelium have been demonstrated in fetal lung fluid. For

example, sodium tends to be cleared from the fetal alveolus area in life and this is thought to relate to the clearance of fluid which is in the alveolus at birth. In addition, there has been proved an active chloride secretion in some animals and this is reflected in a 20 mv spontaneous potential difference in the tissue under discussion. Tissue cultures of epithelial cells suggested that solute can be reabsorbed from lumen to interstitium. Crandall suggests that the active transport process is probably capable of moving large volumes of fluid from the alveolar lung spaces. In relating his physiologic studies to pulmonary edema, Crandall goes on to state that the type barrier in the pulmonary epithelium tends to prevent fluid flow out of the interstitium into the pulmonary alveoli and this, in turn, helps prevent pulmonary edema. Despite this barrier, if the fluid pressure in the interstitium gets high enough, fluid could, so to speak, be pushed from the interstitium into the alveoli. In serious injury to the pulmonary epithelium, interstitial fluid could pass from the interstitium to alveoli and carry protein with it. Once fluid is in the pulmonary alveolus, it takes both active and passive transport to move the fluid, according to the author.

R. M. Effros presented a portion of this symposium entitled "Noninvasive Measurements of

Pulmonary Edema and Epithelial Permeability." He states that it is very difficult to measure fluid accumulation in the lung, especially using dilution principles—however, these procedures are being done and the substances studied can be introduced into either the vascular tree or the inhaled air. He states that a limitation of the gas dilution method of study is that it cannot measure the amount of fluid in an area filled with fluid prior to the study—and thus not ventilated; he goes on to say that unventilated areas can be studied better by blood stream injection of indicators. Other techniques used to study lung water are transthoracic impedance and certain types of radiologic studies. Recently, lung water has been studied by nuclear magnetic resonance. Some studies have been made using liquid indicators which are put into the lung airway. The diffusion of these indicators is then measured and studied as a means of evaluating epithelial permeability; in this context, the liquid can contain soluble solutes, radioactive material, or other substances.

Studies using radioactive material seem to show the greatest promise for measuring epithelial permeability and pulmonary edema at the present time.

All in all, this is a most intriguing symposium on pulmonary edema.





## "From Other Years"\*

"From Other Years will publish some biographies of well-known Arkansas physicians, in addition to interesting items from Medical Society meetings from many years ago."

### Ida Josephine Brooks, M.D.

Fred O. Henker, M.D.\*

Born April 28, 1853, at Mescatine, Iowa, fourth of six children of Methodist minister, Joseph Brooks, of Brooks-Baxter War fame. Early schooling at St. Louis with B.A. degree at the old Little Rock University and Masters at Drury College. Did educational work for several years becoming first president of Arkansas State Teachers Association in 1877. Soon turned to medicine, obtaining her M.D. degree at Boston University in 1891. Thereafter, she held positions of Assistant Superintendent at Massachusetts Memorial Hospital, Superintendent at Minneapolis Maternity Hospital, Superintendent at Spring Lake New Jersey Hospital, and Consultant at Chicago Lincoln Park Sanatorium. Upon returning to Little Rock she established a practice in children's diseases until 1903 when she returned to Massachusetts to specialize in nervous and mental disorders. Back in Little Rock she established a practice in psychiatry along with some general pediatrics. She graduated from Bryant Stratton Business College in Chicago in 1907. In 1914 she was appointed associate professor in the medical department of Arkansas State University, lecturing on "social hygiene," the first woman faculty member in that facility. During World War I she served in uniform as consultant at Camp Pike, the local military post. Later she became Assistant Surgeon in the U. S. Public Health Service. In 1919 she was appointed public health director and psychiatrist for the school system, a position she held until her retirement in 1933. She was also psychiatrist for the juvenile court.

Dr. Brooks died at age 85, March 13, 1939, after a long illness precipitated by a hip fracture and complicated by "weak heart." Burial was at St. Louis.

#### REFERENCES

- Obituary *Arkansas Democrat* March 13, 1939.  
Arkansas IWW Coordination Committee, "Some Remarkable Women of Arkansas," 1977.  
Interview with niece Mrs. Mary Burt Nash, Little Rock, AR.

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#### ANSWER—Electrocardiogram of the Month

**DISCUSSION:** The patient's physical examination suggests right ventricular hypertrophy with, by her history, COPD being a possible cause. The S<sub>3</sub> as described is compatible with left ventricular dysfunction. The electrocardiogram shows the patient to have sinus tachycardia, marked right axis deviation, small Q waves in II, III, and AVF, and QS complexes from V<sub>4</sub> through V<sub>6</sub> with ST elevation from V<sub>2</sub> through V<sub>4</sub>. Additionally, the QRS is of normal duration and a prominent R wave which greatly exceeds the S wave in net deflection is noted in V<sub>1</sub>. These changes are most compatible with anterior infarction and right ventricular hypertrophy. One can not call right bundle branch block with the QRS being normal nor could one diagnose left posterior fascicular block with so much clinical and electrocardiographic evidence of RVH. Of the tendered choices, number 3 is least likely to be present. The feature editor wishes to thank Dr. Randy Jordan of the UAMS-IRVAMC Division of Cardiology for his assistance with this month's feature.

# MEDICINE IN THE NEWS



## THE MONTH IN WASHINGTON

\* \* \* \*

### New Lease On Medicare's Life?

The predicted bankruptcy by 1990 in the Medicare hospital trust fund may be held at bay for a few years past that time if some recent improvements in the status of the fund hold up.

The new projections from the Congressional Budget Office (CBO) were issued along with another CBO report on the federal deficit, however, which projects that Medicare and Medicaid will consume 3% of the gross national product by 1990 and suggests options for holding down Medicare spending. In addition to a Medicare fee freeze or fee schedules, the alternatives include freezing surgical fees or restricting fees for physician services in the hospital to the fee that would have been charged if the service had been done on an outpatient basis.

As recently as last November, CBO had estimated that the Medicare hospital fund would be down to \$8 billion in 1989. Now, CBO says that the fund is likely to show a balance of \$30 billion in 1989. Bankruptcy is not projected until an unspecified date in the "early 1990s."

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### PRO Regulations, Finally

Final regulations needed to open the bidding process for Medicare's new review system were published by the government in late February.

Medicare officials say that will give them plenty of time to get the new peer review organizations (PROs) up and running before the October 1 deadline imposed by law. But the architect of the law and physicians who will be called upon to work under it contend that Administration foot-dragging has jeopardized physician participation in the reviews and threatened the credibility of Medicare's prospective pricing system.

The White House Office of Management and Budget had objected to the regulation as written by HHS, not because of the substance but because of differences over the "scope of work." The regulations had been scheduled for publication in

mid-February, but the squabble held up their release.

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### Physicians and Seniors Groups Building New Ties

Despite some very real differences of opinion, physicians and the nation's elderly appear lately to be moving toward serious reconciliatory efforts.

A warming of relations between organizations representing the two groups was obvious in recent Senate hearings and at a meeting of the country's largest organization of senior citizens—the American Association of Retired Persons.

The new attitude seems based in part on a belief by both groups that it will be up to physicians to assure that their elderly patients continue to receive all the care they need under Medicare's diagnosis related groups (DRGs) pricing system.

One signal of possible new cooperation between the two groups came during a Senate Finance Subcommittee investigation into the Reagan Administration's implementation of the peer review organizations that are to scrutinize care under the DRGs. Physician members of the American Medical Peer Review Association and the American Medical Association along with AARP representatives all criticized the Administration for dragging its feet in issuing the regulations and bids needed to get the PROs underway. All three groups said they want physicians—not insurance companies—to do the review. AARP President-Elect Vita Ostrander complimented the AMA on its interest in the issue.

Repeating similar sentiments a day later at AARP's Legislative Council, Ostrander asked AMA Executive Vice President James Sammons, M.D., whether the AMA "will assist PROs in collecting data on dumping" of patients under DTTGs and whether the Association will "extend this commitment to state associations."

The answer, responded Dr. Sammons, is "an unequivocal yes." The AMA "believes strongly" in the PRO effort and has "insisted that the state medical society should be the agency that applies for designation as the PRO" in order to assure



that the review process becomes a "quality of care measure" rather than strictly a cost issue. "Clearly there has to be a cost factor," he said, but "we don't want to lose sight of quality."

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### Warm Hill Reception for Heckler

HHS Secretary Margaret Heckler got a generally friendly reception in Senate Finance Committee hearings on the President's 1985 budget proposal.

Only Republicans attended the hearing at which Heckler noted that her Department will spend more than \$36 million an hour and, in a departure from previous years, several members said they thought changes proposed for Medicare may not be extensive enough.

Most of the budget's health proposals are recycled from last year, with the most significant change in the Medicare and Medicaid area being the absence this year of a proposal to increase Medicare Part A cost-sharing for short hospital stays while eliminating it for illnesses lasting longer than 60 days. The budget again includes a freeze on physician's Medicare fees.

Heckler said the copayment restructuring was dropped because she believes it unwise in view of the prospective payment plan's incentives for lower hospital utilization. Sen. Steve Symms (R-ID) expressed disappointment that the Administration chose to remove the copayment changes and Sen. John Chafee (R-RI) suggested that the budget proposals don't go far enough toward solving Medicare's financial problems.

"I'm afraid we may undermine public confidence" in our seriousness about dealing with the Medicare program if we just enact these changes, Chafee said. "It is nice to say, 'oh, you can get it from the doctors or you can get it from prospective payment', but the truth is that beneficiaries are going to have to share."

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### HCFA Official To Head PROPAC

The new executive director of the Prospective Payment Assessment Commission (PROPAC) is Donald Young, M.D. Dr. Young previously was Deputy Director of the Health Care Financing Administration's Bureau of Eligibility, Reimbursement and Coverage.

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### Pepper Proposes Changes In Medicare

Rep. Claude Pepper (D-FL) thinks hospitals should share their profits or losses under Medi-

care's new diagnosis related groups. The proposal is part of a five-part plan for solving Medicare's financial problems Pepper outlined on the House floor. Other parts of the plan would clamp down on Medicare's payments to clinical labs; freeze hospitals' depreciable value to Medicare; eliminate an intensity growth factor from the formula for increasing DRG payments; and require the establishment of DRGs or related controls on hospital outpatient care.

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### Finance Budget Deficit Plan

At the behest of Chairman Robert Dole (R-KS), the Senate Finance Committee has begun consideration of a four-year, \$100 billion deficit reduction plan that includes a three month freeze on fees for all and a two-year freeze on Medicare increases for physicians who choose not to accept 100% of Medicare claims on assignment.

On February 27, AMA Executive Vice President James H. Sammons, M.D., wrote to Sen. Dole outlining AMA's call for a voluntary fee freeze of one year and asking the Committee to reconsider its "participating" physician proposal until physicians could show that a voluntary effort would work.

The eventual enactment of the plan of any of the Senate Finance provisions is far from certain, since the committee has stipulated that its deficit-trimming offering is contingent on similar action in other areas, including the defense budget.

About \$1.6 billion of the approximately \$5.5 billion worth of Medicare cuts would come from the physician fee freeze. Similar to one advanced in the committee before Congress recessed last fall, the proposal would affect all physicians for three months. As of April 1, 1984 Medicare's prevailing fees would be rolled back to the June 30, 1983, level and frozen until July 1, 1984.

After that time, the freeze would be discontinued for physicians who signed an annual agreement to assign claims and accept Medicare's allowable fee as payment in full for all services to Medicare patients. Although physicians who refused to sign the agreements could continue to take assignment on a claim by claim basis, their Medicare fees would remain frozen for up to two years, one year at a time.

Another major spending cut proposed for consideration would have eliminated a so-called 1% "intensity factor" used in calculating permissible increases in Medicare payments to hospitals. A

target rate system in effect since 1982 limited annual increases in hospital payments to 1% plus the percentage increase in the cost of the "market-basket" of goods and services purchased by hospitals. The "marketbasket plus 1%" limit was to continue under the new diagnosis related groups system until 1986, after which time the HHS Secretary is to determine increases in DRG payments.

Sen. David Durenberger (R-MN) refused to endorse the committee proposal which would have limited increases in 1985 and 1986 to the marketbasket increase. Instead Durenberger offered a modification which eliminates the 1% intensity factor only in the portion of a hospital's costs reimbursed under the old (pre-DRG) system, for a savings of \$1.1 billion instead of \$2.3 billion over four years.

Other provisions agreed to by the committee include:

- an increase in the Medicare Part B premium each year beginning in 1985 until by 1990 it would equal 35% of the total Part B benefit costs. Premiums would be \$43 per couple per month higher in 1990 than they would have been under current law.

- a delay in the eligibility for Medicare entitlement until the first day of the month following the individual's 65th birthday.

- a provision making Medicare the secondary payer in instances where a Medicare beneficiary is also covered by a working spouse's employer plan.

- establishment of a fee schedule for clinical lab services. The fee would be set at 62% of the prevailing charge levels and would apply to hospital outpatient labs as well as independent labs, although Sen. John Heinz (R-PA) was at press time considering an amendment to further reduce that rate to 60%.

- extension of the current 3% reduction in federal Medicaid payments to states for another three years.

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### **'Baby Doe' Legislation Passes House; Setback Seen To Physician Groups**

Opponents of "Baby Doe" legislation suffered a major setback in Congress in February, when the House of Representatives passed legislation to establish treatment requirements for handicapped newborns.

The bill, approved by a large 52-vote margin,

redefines child abuse to include withdrawal of nutrition of medically-indicated treatment. States must set up procedures to ensure that newborns get proper care and attention in cases of suspected neglect.

States that choose not to comply risk the loss of all child abuse funding. Parents or physicians who do not follow state regulations could be charged with child abuse.

Debate on the bill, described by one House member as "the most personal, gut-wrenching issue we'll face this year," was repeatedly delayed by election-conscious legislators. Once on the floor, however, it won the broad support of all but 30 Republicans, including such key figures as Jack Kemp (R-NY), Henry Hyde (R-IL), and Robert Michel (R-IL).

A last minute attempt to delete Baby Doe provisions from the bill by Rep. Rod D. Chandler (R-WA) and others failed to win support in the House. Because this substitute amendment offered federal assistance and information rather than regulations, it earned the broad-based endorsement of the medical community.

The infant care debate then expanded into an open forum on abortion, euthanasia and other "right-to-life" issues. "The law now says that the pre-born fetus is not human. Should we go the next step and say that the newborn is also not quite human? How about at the other end of life? Can we also make life-or-death decisions for people because, having become senile, they are not quite human, either?", challenged Rep. Hyde.

Countered Chandler: "My philosophy is not that we believe there is anything less human about handicapped infants. Instead we face a situation where we must decide whether there should be unlimited treatment in an attempt to sustain life."

The American Medical Association, the American College of Obstetricians and Gynecologists, and other members of the medical community fear that this legislation will encourage the government to second-guess parental and physician decisions. It may also increase the stress and trauma when an infant is born with life-threatening congenital impairments, without the promise of real benefit in treatment, they say.

Meanwhile in New York, the U. S. Court of Appeals has ruled that the federal law which prohibits discrimination of the handicapped does not apply to treatment decisions of handicapped newborns. Neither the language nor the intent of the



law—Section 504 of the federal Rehabilitation Act of 1973—gives the Department of Health and Human Services (HHS) the authority to conduct an investigation based on medical records of Baby Jane Doe, the three-judge panel concluded.

"Congress never contemplated that the Rehabilitation Act would apply to treatment decisions involving defective newborn infants. Until Congress has spoken, it would be an unwarranted exercise of judicial power to approve the type of investigation that has precipitated this lawsuit," the 48-page opinion said.

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### HHS Budget Hit Hard

The fiscal 1985 budget that President Reagan presented to Congress in February would boost the Health and Human Services (HHS) authority to \$324.8 billion, an after-inflation increase of 5.5%. Under this budget, HHS will spend \$36.3 million an hour in benefits for more than 60 million Americans.

However, the once-skyrocketing rate of HHS growth has declined significantly, falling from an increase of 17.7% in 1981 to 7.5% in 1985. "We are striving to do more with less," explained HHS Secretary Margaret M. Heckler in a press conference.

Major entitlement programs for the elderly, disabled and poor would increase slightly; discretionary programs in disease and drug research would lose support.

In the large entitlement programs, reforms such as DRGs are credited with the slowed spending. In the smaller discretionary programs, no new projects will be undertaken for the remainder of the decade, unless programs of equal cost are eliminated.

"It is vital that we spend wisely," said Secretary Heckler. "We have a role to play in the battle against a higher deficit, increased taxes, and the threat of renewed inflation, which would erode the very benefits we provide to people."

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### Organ Transplant Bill Opposed By AMA

Congress has unveiled one solution to the organ transplant problem: HR. 4080, the National Organ Transplant Act. It is eyed nervously by members of the medical community, however, who fear it will boost government costs and authority over all medical procedures.

The bill, introduced by Rep. Albert Gore (D-TN), would provide grants for organ pro-

curement organizations and a 24-hour telephone "transplant hotline." It would also provide a data registry of patients who have received transplants.

Furthermore, it would instruct the Department of Health and Human Services (HHS) to set criteria for: patient selection, qualifications of transplant personnel, and the facilities where transplants are performed. Unauthorized facilities would receive no Medicare or Medicaid reimbursement.

The bill is strongly opposed by the AMA, which says it would provide new and unprecedented authority to HHS. HHS officials, oppose the bill as well.

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### Senators Turn On DRGs

Flanked by subordinates with boxfuls of briefing materials, HHS Secretary Margaret Heckler set out in a recent appearance before the Senate Budget Committee to defend the President's 1985 budget proposals. Instead, she found herself justifying her department's implementation of Medicare's new diagnosis related groups (DRGs) payment plan.

The Senators' questions reflect criticisms hospitals have been levelling at the new program since its details were first unveiled last fall. They involve the lack of any special adjustment for hospitals treating large numbers of indigent patients, perceived inadequacies in the wage index used to adjust DRG payments for each hospital, and alleged inequities in the assignment of hospitals to either an urban or rural category.

Other areas of concern include the department's apparent reluctance to approve waivers from the federal DRG plan for certain state rate programs and the need for physician cooperation if the program is to work.

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### Pathologists vs HHS

The duties of pathologists were dissected in a Washington, D. C. federal courtroom in February. At issue in the case of *The College of American Pathologists vs U. S. Department of Health and Human Services* is whether pathologists' services should be lumped together with other hospital services or considered separately as "physician's services."

The dispute revolves around reimbursement levels. If pathology services are considered part of a hospital's general services, they are covered by Part A of Medicare; under the new prospective

payment system, a hospital will only pay what it chooses to pay. But if a pathologist's job is considered to be a physician's service, he or she may charge for services like any other physician.

The government argues that pathologists' clinical lab services are not usually furnished for an individual patient, do not contribute directly to diagnosis or treatment, and do not necessarily have to be performed by a physician. The pathologist is a 'physician's physician' and thus should not charge patients directly, HHS says.

The pathologists, on the other hand, contend that members of their profession perform a personal service every time they themselves analyze or interpret test results. Technologists may perform routine work, but the pathologist's opinion is important in cases of unexpected or abnormal test results. The pathologist's decision is an important part of a patient's diagnosis, said CAP attorney Jack Bierig.

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#### Package Insert On 'Pill' To Change

The patient package insert of oral contraceptives received a facelift in February, reflecting the growing body of information about the dangers and benefits of the pill.

Physicians and the public are unlikely to see these revisions anytime soon, however. Earlier changes, proposed more than two years ago, still languish within the Food and Drug Administration's (FDA) regulatory pipeline. Newer changes proposed at last week's meeting of the FDA Fertility and Maternal Health Drugs Advisory Committee face similar delays.

The new label will omit warnings about breast cancer, included in previous versions. After a review of recent studies, committee members decided that there is insufficient evidence linking the pill with the disease.

It strengthens language about cervical cancer, however. For the first time, it recommends that pill users receive close clinical surveillance, including annual Pap smears.

Other warnings also receive new emphasis. Three high risk factors—heavy cigarette smoking, over 35 years of age, and conditions such as high blood pressure, obesity, diabetes, and high cholesterol levels—are prominently placed in the insert's opening section. Women are instructed that "as a general principle, no drug should be taken during pregnancy unless it is clearly indicated"

and "if possible, do not use oral contraceptives while breast feeding."

And for the first time, women are provided with a list of special medical conditions—such as migraine, depression, breast nodules, and gall bladder, heart or kidney disease—that should be brought to the attention of their physicians.

One section, the first of its type to appear in inserts, describe the benefits of using the pill: lighter menstrual cycles, decreased menstrual pain and tension, reduced risk of fibrocystic breast disease, ovarian cysts, pelvic inflammatory disease, ectopic pregnancy, ovarian cancer, endometrial cancer, and rheumatoid arthritis.

Some new deletions are also conspicuous: the new insert will not caution DES daughters against estrogen use; there is no mention of temporary infertility, increased risk of miscarriage, or "post-pill" symptoms experienced after stopping use; a comparison with alternative forms of birth control is omitted; and women with family histories of diabetes, stroke, and heart attack are no longer advised of possible risk. Several other conditions possibly linked to pill use—myocardial infarction, hemoglobinopathies, and melanoma—have been left off the insert until more information is available.

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#### Cancer Death Rates Declining

The nation's overall death rate for cancer declined between 1950 and 1979, despite a sharp increase in lung and other smoking-related cancers, according to data published in February by the Environmental Protection Agency (EPA) and the National Cancer Institute (NCI).

Excluding lung cancer, death rates for all cancers decreased 5% in white males, 12% in white females, and 13% in nonwhite females. The rates for nonwhite males increased 15%.

In contrast, lung cancer death rates increased 116% in white males, 199% in white females, 185% in nonwhite males and 188% in nonwhite females. There were also increases in deaths from esophageal and laryngeal cancers.

The new data appear in *U. S. Cancer Mortality Rates and Trends: 1950-1979*, a collaborative effort between EPA and NCI. Death rates were based on death certificates received by the U. S. Department of Health and Human Services, National Center for Health Statistics. Rates were computed for 3,065 counties in 49 states.

"The tabulations help identify counties with



unusual cancer mortality patterns, which may in turn provide etiologic clues. Similarities between the patterns of cancer and distribution of risk factors are helpful in designating high-risk communities," said Thomas Mason, M.D., of NCI's Environmental Epidemiology Branch and a co-author of the reference text.

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### **FDA Petition To Halt Use of Two Anti-Inflammatory Drugs**

The Food and Drug Administration was petitioned in February to suspend immediately use of the drugs Butazolidin (phenylbutazone) and Tandearil (oxyphenbutazone), due to alleged adverse reactions associated with their use. The petitioner is Health Research Group, a Ralph Nader organization.

Manufacturer Geigy Pharmaceuticals defends its products, saying that their risks are exaggerated and that sudden withdrawal from the market would be "devastating" to physicians and patients.

This unusual request for sudden suspension—granted by FDA once before, in 1977—is justified due to the seriousness of drug reaction, according to Health Research Group. The usual administrative procedure for withdrawing a product takes between six months and several years.

In a February public hearing in Washington, D.C., HRG urged that only controlled distribution of the powerful nonsteroidal anti-inflammatory drugs (NSAIDS) should be permitted. The small number of patients who need the drug could get it by asking their physicians to file an Investigational New Drug Application, according to HRG.

The drugs have caused a total of 3,100 deaths in the United States contends HRG medical director Sidney Wolfe, M.D. Safer and equally effective alternatives exist for virtually all conditions now treated with the drug, he says.

The risks do not exceed those of other NSAIDS, counter manufacturers. The total number of adverse reactions "are neither unexpected nor disproportionate," says Marvin Wetter, M.D., Geigy spokesman. The incidence of deaths resulting from use of Butazolidin and Tandearil is .0006%, lower than that of other NSAIDS Nalfron, Clinoril, and Naprosyn. All nine of the commonly prescribed NSAIDS cause the same reactions as Butazolidin and Tandearil, he contends.

Furthermore, most physicians are familiar with

the risks, Wetter adds. "The American medical community is well aware of the drugs' adverse effects—this is no new information," he said.

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### **Fetal Pain Controversy Bared**

A coalition of physicians have rallied behind President Reagan, supporting his contention that aborted fetuses suffer "long and agonizing pain."

"A fetus shows the precise behavior as you or I in avoiding pain. It is not a reflex, but an actual aversion to a needle or chemicals. He squirms away from any noxious influence," said spokesman Vincent Collins, M.D., professor of anesthesiology at Northwestern University in Chicago, in a February press conference in Washington, D.C.

The physicians delivered a letter to Reagan, saying that "we are pleased to associate ourselves with you in drawing the attention of people across the nation to the humanity and sensitivity of the human unborn. You stand on firmly established ground." Signatories include former American College of Obstetricians and Gynecologists (ACOG) presidents Richard T. F. Schmidt, M.D., and Fred Hofmeister, M.D., and 24 other physicians.

The dispute remains unsettled, however. ACOG spokesman Ervin E. Nichols, M.D., has performed a National Institutes of Health literature search and contends there is no legitimate scientific evidence showing that fetuses feel pain early in pregnancy. In fact, scientific literature suggests just the opposite, he says: the fetal spinal cord is not adequately covered until the fifth month of pregnancy, and the fetal cerebellum is not sufficiently developed until the seventh month of pregnancy. A sensation of pain is dependent upon these two processes, he says.

\* \* \* \*

### **Health Groups Fan "Smokescreen" of Cigarette Manufacturer**

Twenty years after the now-famous Surgeon General's report linking smoking and disease, tobacco companies have decided to fight back.

In a multi-million dollar campaign to defend smoking, tobacco manufacturer R. J. Reynolds Industries, Inc., is running advertisements in newspapers and magazines asking: "Can we have an open debate about smoking?" saying that not all scientific evidence indicates that smoking is hazardous.

At a February news conference in Washington, D.C., three health organizations have launched

their own counter-offensive. Leaders of the American Cancer Society, American Heart Association, and the American Lung Association called the Reynolds campaign "a smokescreen" by "a desperate industry."

"This is one of the most misleading and irresponsible advertising campaigns any of us in this room can remember," said Edwin B. Fisher, Jr., of the American Lung Association. "It's like opening a debate as to the lethality of bullets."

The health hazards of smoking "have been questioned by vested interests but never repudiated by science," said Antonio M. Gotto, M.D., a Houston cardiologist and current president of the American Heart Association. "We are appalled that an attempt is being made to reopen the case against cigarette smoking."

They also criticized the tobacco companies' use of mountain climbers, ballet dancers, skiers, and other athletes to sell cigarettes, saying they violate an industry code that advertising not show smokers engaged in physical activity "beyond that of normal recreation." The Tobacco Institute, a trade group, says these ads meet the code, adding that interpretation of their content is subjective.

Insiders note that manufacturers are getting nervous about the increasing unpopularity of the habit, and growing restrictions on where and when to smoke.

\* \* \* \*

#### **Rx Drug Ads Nixed By Consumers, CBS Finds**

What is likely to be an influential report on direct-to-consumer advertising of prescription drugs was unveiled by CBS Television researchers in February. Its findings, presented to the medical community and the Food and Drug Administration, will be used to guide TV advertising policy once the FDA's moratorium is lifted.

The study's results are based on 40-minute in-home interviews with 1233 consumers and are projectible to the 77.4 million U. S. households believed to use prescription drugs. By knowing consumer attitudes about drugs, CBS can then suggest the most responsible and effective ad guidelines, researchers say.

The central conclusion is that consumers need more information about drugs. Nearly three-quarters of all interviewed households said they wanted to be better informed about drugs. Only one-third said they were well-informed about drug issues.

\* \* \* \*

#### **Liver Transplants Next for Federal Funding?**

The Reagan Administration has decided to recognize liver transplantation as a non-experimental procedure for children with biliary atresia and other rare congenital defects, thus opening the doors to reimbursement by federal programs such as CHAMPUS.

The decision is also expected to encourage states to change their reimbursement policies under Medicaid. Some states already reimburse for liver transplantation.

"This decision reflects the advances in medical science which offer new hope for children afflicted with biliary atresia," said Health and Human Services Secretary Margaret Heckler. "Lifting the experimental label is a significant advance."

Public focus on improved survival rates—resulting from Congressional hearings and a National Institutes of Health consensus conference—is credited with the government's change in position.

\* \* \* \*

#### **NIH Warns Against Ultrasound Misuse**

Diagnostic ultrasound should be used only when medically indicated and not administered routinely to all pregnant women, according to a report issued in February by a National Institutes of Health panel of physicians.

No actual adverse effects have ever been associated with ultrasound, the panel agreed. But "hypothetical risks" should not be ignored or overlooked, said panel chairman Fredric Frigoletto, M.D., professor of obstetrics and gynecology at Harvard Medical School.

Ultrasound technology has improved dramatically in recent years: its high-frequency sound waves can detect minute fetal abnormalities, observe the valves in a fetal heart, and note the motion of fetal breathing. It is particularly useful in detecting multiple or ectopic pregnancies, thus improving outcome. An estimated 15-40% of all pregnant women have been exposed to ultrasound.

Routine screening is not justified, however, said the NIH panel. Ultrasound is believed to give off heat when sent through tissues. Thus, exposure to a large amount of ultrasound energy for long periods of time could produce cell damage.

Physicians should not perform ultrasound



exams to simply satisfy the family's desire to view the fetus, learn the fetal sex, or show the picture to friends. Additionally, physicians should

not perform ultrasound for educational or commercial purposes, such as demonstrating new equipment.



DR. KOLB ACCEPTING PLAQUE FROM DR. COURY

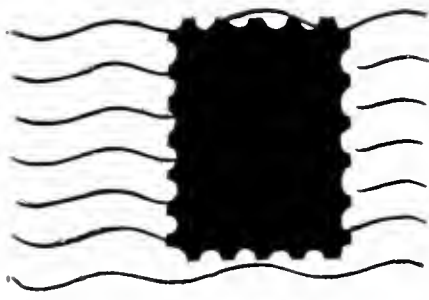
#### DR. KOLB ACCEPTS PLAQUE

Dr. James M. Kolb, Jr., of Russellville, recently represented the Arkansas Medical Society at the National Leadership Conference of the American Medical Association (AMA) in Chicago.

During the conference, Dr. Kolb received a plaque from Dr. John J. Coury, Chairman of the Board of Trustees of the AMA. The plaque recognized the Arkansas Medical Society for a seventh consecutive year of increased membership in the AMA.

The Leadership Conference theme was "Bold New Directions". The program was designed to help medical leaders understand developing trends in the delivery of health care. Speakers included futurist Alvin Toffler, the United States Assistant Secretary for Health Edward N. Brandt, Jr., political commentator Hugh Sidey, Senator Lloyd Bentson and Congressman Newt Gingrich.

Dr. Kolb is treasurer of the Arkansas Medical Society.



## LETTERS TO THE EDITOR

### — IMPORTANT NOTICE —

March 19, 1984

Alfred Kahn, Jr., M.D., Editor  
Arkansas State Medical Journal  
1300 West 6th Street  
Little Rock, AR 72201

Dear Dr. Kahn:

There is an alarming threat developing in the population at risk from phenylketonuria. The detection program is now about 20 years old. Several thousand babies have been detected as having this defect and treated successfully. However, the earlier females are reaching pubertal age and are capable of having children. Almost all have long since abandoned their diet restrictions

and have blood phenylalanine levels of 30 to 40 milligrams percent or more. Thus their prospective babies will be subjected to poisonous levels of phenylalanine from conception to delivery. Some of these babies will be victims of the metabolic defect, more than half of them will be carriers, and all will be affected by their intra-uterine environment.

Unfortunately, these women were most often cared for by pediatricians who have long since lost contact with them. It is also suspected that some of them have never been told by their parents of the problem in an attempt to hold secret a family flaw.

The situation requires that each physician make an effort to "recall" and alert these patients to the potential hazard and urge attention to this matter with their present physician. The present physician should offer them all available resources of genetic counseling and planned parenthood which would include assistance in deciding whether a pregnancy should even be allowed. There have been suggested precedents for litigation in the failure of this action.

Sincerely,  
Wilbur G. Lawson, M.D., F.A.A.P.  
Northwest Arkansas Birth Review  
Committee  
Fayetteville, AR 72701



# keeping up

**Category 1**  
**Continuing Medical Education**  
**Programs Available in**  
**Arkansas**

#### **OPHTHALMOLOGY RESIDENTS' DAY**

Presented by Dr. Don Gass, *June 1*, registration 7:30, meeting 8:00, University of Arkansas for Medical Sciences. No other information available.

#### **1984 PEDIATRIC UPDATE**

*June 8-10*, Fairfield Bay. Fifteen hours Category I credit.

#### **REVIEW: DIABETIC RETINOPATHY**

Presented by Richard Henry, M.D., *June 18*,

6:30 p.m., Dining Room, Memorial Hospital, North Little Rock. One hour Category I credit. No registration fee.

#### **COMPARATIVE VASODILATOR THERAPY IN HEART FAILURE AND HYPERTENSION**

Presented by Lofty Basta, M.D., *June 19*, 7:30 p.m., Bella Vista Country Club, Bella Vista. Sponsored by UAMS AHEG-NW. One hour Category I credit. No registration fee.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



## RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to two hours Category I Credit.

### EL DORADO — AHEC-SOUTH ARKANSAS

*Surgical Conference*, first, second and third Monday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Pathology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Colposcopy-Pap Smear Clinic*, fourth Tuesday, 12:00 noon to 1:00 p.m., AHEC-South Arkansas.  
*Internal Medicine Conference*, first, second, and fourth Wednesday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Chest Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Warner Brown Hospital.  
*Obstetrics-Gynecology Conference*, second and fourth Thursday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Behavioral Sciences Conferences*, first and fourth Friday, 12:45 p.m. to 1:30 p.m., AHEC-South Arkansas.  
*Pediatric Conference*, second and third Friday, 12:30 p.m. to 1:30 p.m., (second Friday, Warner Brown Hospital, third Friday, Union Medical Center).

### FAYETTEVILLE — AHEC-NORTHWEST

*Medicine Teaching Conference*, first, third and fifth Friday, 7:30 a.m. to 8:30 a.m., Baker Conference Room, Washington Regional Medical Center.

### FAYETTEVILLE — VA MEDICAL CENTER

*Radiology Conference*, first and third Thursday, 1:00 p.m., Conference Room.  
*Pathology Conference*, second Thursday, 3:00 p.m., Conference Room.  
*Peer Exchange*, June: "Pulmonary".

### FORT SMITH-AHEC

*Cancer Conference*, each Tuesday, 12:00 noon, Fourth Floor Conference Room, Sparks Regional Medical Center.

### HOT SPRINGS — ST. JOSEPH'S REGIONAL HEALTH CENTER

June 5: "Coagulation", 12:30 p.m. One hour Category I credit.  
 July 3: "Geriatrics", 12:30 p.m. One hour Category I credit.

### JONESBORO — AHEC-NORTHEAST

*Interesting Case Conference*, second and fourth Tuesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Methodist Hospital of Jonesboro CME Staff Conference*, second Tuesday, 7:30 p.m., Methodist Hospital of Jonesboro Cafeteria.

*Monthly Medical Lecture Series*, third Tuesday, 7:30 p.m., rotates each month between Walnut Ridge and Pochontas.  
*Monthly Perinatal Conference*, second Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Tumor Conference*, fourth Wednesday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Weekly Medical Lecture Series*, each Friday, 12:00 noon, Stroud Hall, St. Bernard's Annex Building.  
*Chest Conference*, third Friday, 12:00 noon, St. Bernard's Dietary Conference Room.  
*Arkansas Methodist Hospital CME Conference*, last Friday, 7:00 a.m., AMH, Paragould.

### LITTLE ROCK — ARKANSAS CHILDREN'S HOSPITAL

*Child Neurology Conference*, first Monday, 8:00 a.m., Second Floor Classroom.  
*Pediatric Radiology/Genetics Conference*, each Monday, 12:00 noon, Second Floor Classroom.  
*Pediatric Grand Rounds*, each Tuesday, 8:00 a.m., Second Floor Classroom.  
*Respiratory Care Case Conference*, each Wednesday, 1:00 p.m., Polly Thomas Dining Room.  
*Infectious Disease Conference*, second Wednesday, 12:00 noon, Second Floor Classroom.  
*Pediatric Pharmacology Conference*, third Wednesday, 12:00 noon, Second Floor Classroom.  
*Problem Case Conference*, each Thursday, 12:00 noon, Second Floor Classroom.  
*Primary Care Seminar and Case Presentation*, each Friday, 12:00 noon, Second Floor Classroom.

### LITTLE ROCK — BAPTIST MEDICAL CENTER

*Surgery Conference*, each Tuesday, 8:00 a.m. to 9:00 a.m., Conference Room #1. CANCELLED FOR JULY AND AUGUST.  
*Pulmonary Conference*, each Tuesday, 12:00 noon to 1:00 p.m., Shuffield Auditorium.  
*Grand Rounds*, each Wednesday, 12:00 noon to 1:00 p.m., Conference Room #1.  
*Anesthesiology Conference*, third Thursday, 7:00 a.m. to 8:00 a.m., Conference Room #2.  
*Cardiopulmonary Resuscitation Course*, fourth Thursday, 6:00 p.m. to midnight, Shuffield Auditorium. Six hours Category I credit. (Pre-registration with Department of Medical Education required, phone 227-2672.)

### LITTLE ROCK — ST. VINCENT INFIRMARY

*Interhospital GI Problems Conference*, first Monday, 6:00 p.m. to 7:30 p.m., Room E-155, Education Wing.  
*Pediatric Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Room E-159, Education Wing.  
*Interhospital Urology Grand Rounds*, first Tuesday, 5:30 p.m. to 6:30 p.m., Room E-159, Education Wing.  
*Cardiology Conference*, second Tuesday in June, 7:00 a.m. to 8:00 a.m., Room E-159, Education Wing.  
*Neuropathology Conference*, third Tuesday, 5:30 p.m. to 6:30 p.m., Room S-1169, Laboratory.  
*Peripheral Vascular Disease Conference*, third Tuesday, 6:00 p.m. to 7:00 p.m., Room E-159, Education Wing.  
*Pulmonary Conference*, first and third Thursday, 12:00 noon to 1:00 p.m., Room E-159, Education Wing.  
*Hematology-Oncology Conference*, second Thursday, 12:00 noon to 1:00 p.m., Laboratory Library.

### LITTLE ROCK — UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

*Ophthalmology Morning Conference*, each Monday, Wednesday, and Friday, 7:30 a.m., ED II G/104a.

*Orthopaedic Fracture Conference*, each Tuesday, 7:00 a.m., ED II G1/135.  
*Medicine Research Conference*, each Tuesday, 8:00 a.m., ED II 8/105.  
*Orthopaedic Grand Rounds*, each Tuesday, 10:00 a.m., ED II G1/135.  
*Medicine-Pathology Conference*, each Wednesday, 12:30 p.m., 3E06.  
*GI-Radiology Conference*, each Wednesday, 8:00 a.m., Radiology Conference Room.  
*Neuro-Radiology Case Conference*, each Wednesday, 4:00 p.m., M1/293.  
*Medicine Grand Rounds*, each Thursday, 8:00 a.m., Shorey Auditorium.  
*Phychiatry Grand Rounds*, each Thursday, 12:00 noon, Child Study Center Auditorium.  
*GI-Problem Case Conference*, each Thursday, 3:30 p.m., 3D29.  
*Ophthalmology Problem Case Conference*, each Thursday, 4:00 p.m., ACC3/150.  
*Surgery Grand Rounds*, each Saturday, 9:00 a.m. to 12:00 noon, ED II G/131 a&b.

#### **PINE BLUFF — AHEC**

*Sub-Specialty Conference*, first Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.  
*Obstetrics/Gynecology Conference*, second Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.  
*Radiology Conference*, third Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.  
*Southeast Arkansas Medical Lecture Series*, third Tuesday, 6:30 p.m., Rosswood Country Club (dinner meeting).  
*Family Practice Conference*, fourth Tuesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.  
*Surgery Conference*, first Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.  
*Internal Medicine Conference*, second and fourth Wednesday, 12:30 to 1:30 p.m., Jefferson Regional Medical Center.  
*Pediatric Conference*, third Wednesday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.  
*Behavioral Science Conference*, each Thursday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.  
*Chest Conference*, second and fourth Friday, 12:30 p.m. to 1:30 p.m., Jefferson Regional Medical Center.

#### **TEXARKANA — AHEC SOUTHWEST**

*Tumor Conference*, first Wednesday, 7:00 a.m., St. Michael Hospital.  
*Chest Conference*, third Wednesday, 12:30 p.m., St. Michael Hospital.



## **PERSONAL AND NEWS ITEMS**

#### **DR. FISHER ELECTED**

Dr. Robert Fisher of Van Buren has been elected chief executive officer of Holt-Krock Clinic in Fort Smith. Dr. Fisher has also been elected to the Board of Directors of the Citizens Bank and Trust in Van Buren.

#### **DR. WEATHERS**

Dr. Larry Weathers of Searcy discussed heart disease at a meeting of the Searcy Lions Club.

#### **DOCTORS PARTICIPATE**

Drs. John Baldrige, Warren Skaug and Steve Woodruff participated in a Jonesboro television program "About Diabetes."

#### **MEDICAL DIRECTOR**

Dr. Timothy B. Moritz, formerly of Ohio, has been named Medical Director of Charter Vista Hospital in Fayetteville.

#### **DR. PORTIS SPEAKS**

Dr. Richard Portis of Prescott spoke on "Ethics and Economics of Organ Transplants—A Broad and Somewhat Pessimistic View" to Ouachita

Baptist University students. The speech is one of a series of six based around the theme "1984 and Beyond."

#### **DR. DUNCAN SPEAKS**

Dr. Philip Duncan of Fayetteville spoke on "Bronchoscopy" at a recent meeting of the Better Breathers Club.

#### **MEDICAL STAFF OFFICERS**

Dr. William Tate of Fort Smith has been elected chief of staff at Sparks Regional Medical Center. Other officers are Dr. Paul Wills, secretary; Dr. Kent Alexander, chief of Emergency Room; Dr. Jimmie Atkins, chief of Obstetrics/Gynecology; Dr. Robert Barker, chief of Medicine; Dr. Pat Chambers, chief of Psychiatry; Dr. John Deaton, chief of Cardiology; Dr. Robert Fisher, chief of Anesthesiology; Dr. Roy Girkin, chief of Pathology; Dr. Robert Hughes, chief of EENT; Dr. James Long, chief of Orthopaedics; Dr. Joel Parker, chief of Pediatrics; Dr. Charles Reul, chief of Neurology; Dr. Rex Russell, chief of Radiology; Dr.



Robert Thompson, chief of Family Practice; Dr. William Turner, chief of Oncology; Dr. Rowland Vernon, chief of Surgery; and Dr. Steve Wilson, chief of Urology.

#### **DR. ROBERTSON PARTICIPATES**

Dr. Fred Robertson recently participated in a continuing medical education program on "Clinical Presentation of Arthritis" in Hot Springs.

#### **DR. HALL IN MORRILTON**

Dr. Anthony D. Hall has joined Drs. G. B. Owens and Charles Wells in Morrilton.

#### **DR. GOODMAN FELLOW**

Dr. R. Cole Goodman of Fort Smith has been awarded the honors of Fellow of the American Society of Laser Medicine and Surgery and Fellow of the International College of Surgeons, Section of Plastic Surgery. Dr. Goodman has also been granted membership in the American Society of Maxillofacial Surgeons.

#### **DR. ROY ON PROGRAM**

Dr. F. Hampton Roy of Little Rock was one of the speakers for the 1984 meeting of the Arkansas Historical Association; his topic was "Health Care."

#### **DR. CHUDY AND SCHRATZ APPOINTED**

Dr. Amail Chudy of North Little Rock has been appointed to the Committee on Drugs and Devices of the American Academy of Family Physicians.

Dr. Bruce Schratz of North Little Rock has been appointed to the Commission on Membership and Member Services of the American Academy of Family Physicians.

#### **DR. PROSSER SPEAKS**

Dr. Robert Prosser of McGehee spoke on "The Woman's Right to be Feminine" at a Health and Fitness Forum sponsored by the McGehee-Desha County Hospital Auxiliary.

#### **DR. OWENS LOCATES**

Dr. J. Douglas Owens has opened his office at 403 West Oak in El Dorado for the practice of Family Medicine, including Obstetrics.

#### **DRS. RAULS AND HARMON PARTICIPATE**

Dr. Stephen Rauls and Dr. Harvey Harmon of Blytheville participated in a county-wide Slimathon. Drs. Rauls and Harmon both presented lectures during the month-long program.

#### **DR. JOHNSON SPEAKS**

Dr. Jorge Johnson of Fayetteville presented "Medications and Their Side Effects on Head Injured Individuals" at a meeting of the Northwest Arkansas Chapter of the Arkansas Head Injury Foundation.

#### **DR. BARNES SEMINAR SPEAKER**

Dr. Ford Barnes of Fort Smith spoke at the fourth annual seminar on "Infection Control for the Health Care Team" sponsored by St. Edward Mercy Medical Center. Dr. Barnes' topic was "A.I.D.S."

#### **DR. TOWNSEND HONORED**

Dr. Tom Ed Townsend of Pine Bluff has been inducted into Alpha Omega Alpha. Dr. Townsend was one of two alumni of the University of Arkansas College of Medicine inducted into the Society.

#### **DR. STOLTZMAN ASSOCIATES**

Dr. Roger K. Stoltzman has joined the staff of Holt-Krock Clinic at Fort Smith for the practice of Psychiatry.

#### **DRS. LOWERY PUBLISHED**

An article by Drs. Ben and Robert Lowery has been published in the *Journal of Ocular Therapy and Surgery*. The article, "Surgical Correction of Large-Angle Esotropia: Part II" appeared in the January-February 1984 issue. Co-authors were Drs. William C. Edwards and C. Bruce Hess of the University of South Florida in Tampa.

#### **DR. BIGGERSTAFF SPEAKER**

Dr. Jerry Biggerstaff of Osceola was guest speaker at the Diabetic Teaching Clinic conducted by Osceola Memorial Hospital.

#### **JEFFERSON COUNTY HONORS PHYSICIANS**

The Jefferson County Medical Society has contributed \$2,000 to MedCamps in memory of Drs. Carl Adams and Frank Bryant who were members of the county society.

MedCamps of Arkansas provides a summer camping experience for children who have medical problems requiring special care—including spina bifida, cerebral palsy, arthritis, epilepsy, diabetes, and children with orthopaedic, lung, or hearing problems. The Camp is in its 14th year; it is a non-profit project of the Arkansas Chapter of the American Academy of Pediatrics. About

300 campers are expected this year in eight weeks of camp. The cost per child is \$160. Information on the project may be obtained by writing Med-Camps of Arkansas, Post Office Box 5341, Little Rock 72215.

**CORRECTION**

In the March issue of the Journal, it was erroneously reported that Dr. Samir Sulieman had moved from North Little Rock and joined the Jacksonville Specialty Clinic. Dr. Sulieman is still in the practice of Urology in North Little Rock and has not relocated as reported in the March issue.



**MRS. KUTAIT NOMINATED**

Mrs. Kemal Kutait of Fort Smith has been nominated for the office of Southern Regional Vice President of the American Medical Association Auxiliary. Mrs. Kutait was President of the Arkansas Medical Society Auxiliary in 1977-78.





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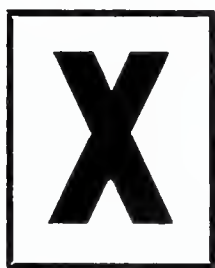
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